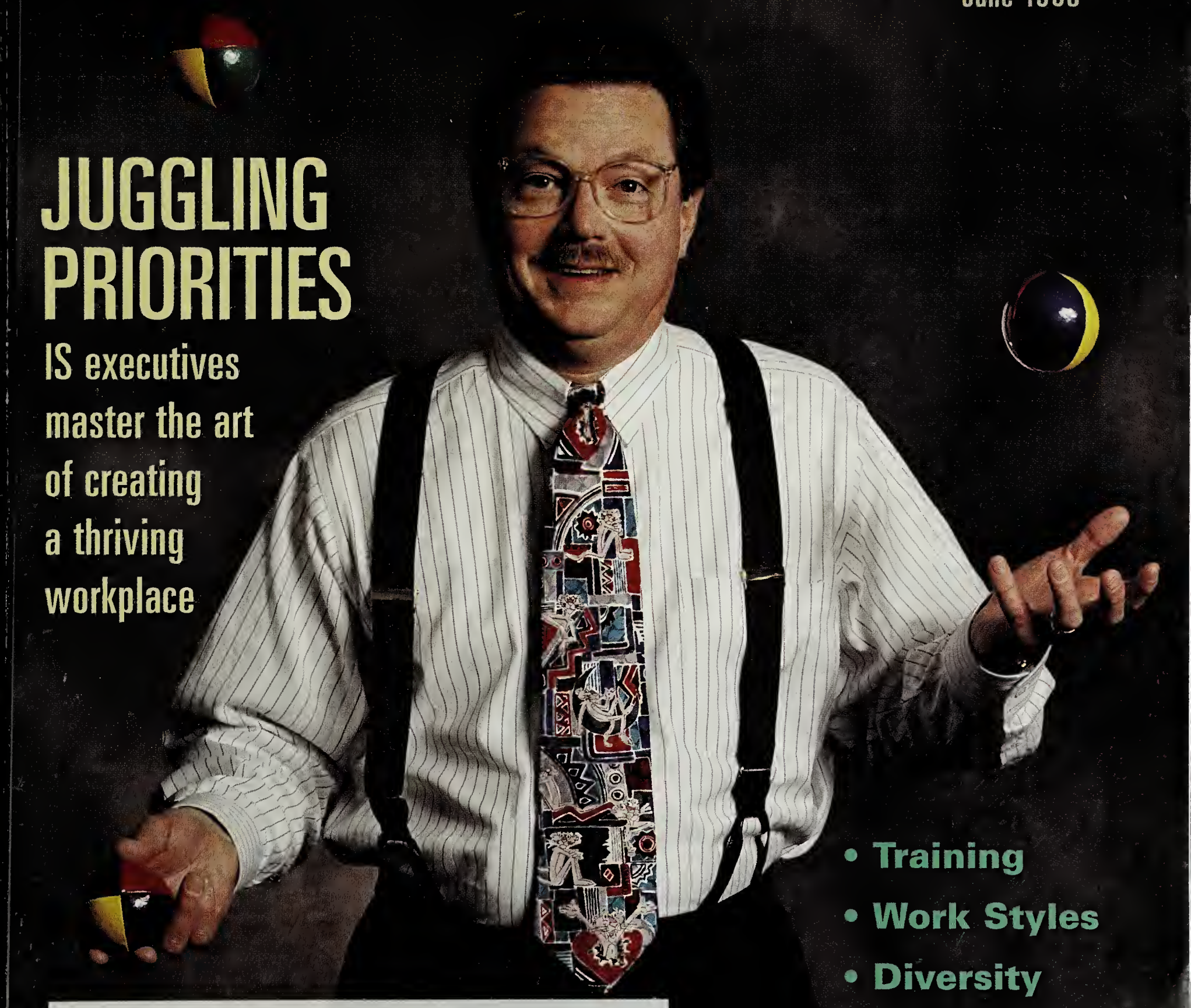
COMPUTERWORLD

The 100 Best Places to Work

June 1996

JUGGLING PRIORITIES

IS executives master the art of creating a thriving workplace



- Training
- Work Styles
- Diversity
- Survey Results

Michael Radcliff, CIO
Owens Corning

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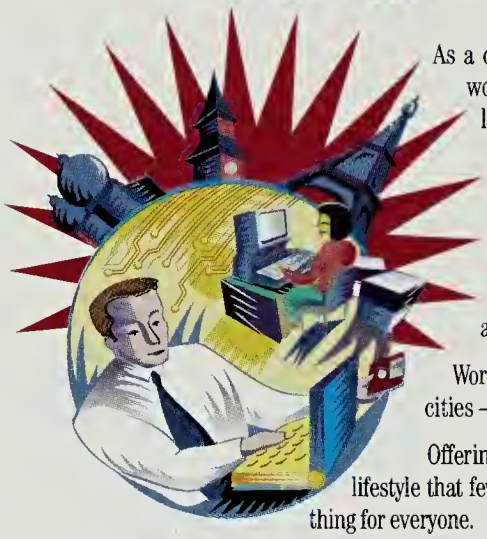

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COMPUTERWORLD

The 100 Best Places to Work

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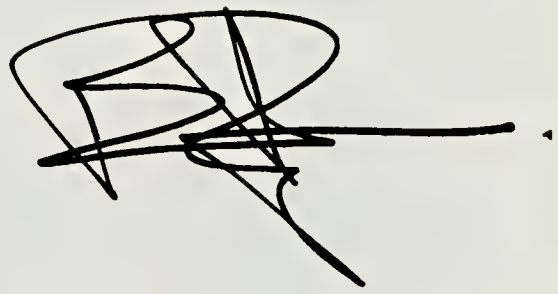
Balancing *the* Best

As a manager, I know something about juggling priorities. There's staff development, strategic planning, project management, new technology applications, budgeting and, oh yes, satisfying the customer. If you take your eyes off any one of these balls, they all can come crashing down.

We put Michael Radcliff, CIO of Owens Corning, on the cover of this issue because the juggling metaphor captures the essence of what it takes to be a Best Place to Work. He really does know how to juggle, and so does his entire IS group — all 150 of them. (The group photo below is testimony.)

In the pages of this year's Best Places to Work issue, we celebrate IS staffs from 100 companies, universities and government agencies. If you are electronically inclined, you can access each of these Best Places to Work through *Computerworld*'s home page at http://www.computerworld.com.

My hope is that you will use the Best Places to Work to benchmark your own organization and to improve your juggling skills.



Bruce Rayner, *Editor*
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Owens Corning global development team members, from left: Sharon Crowle, Kevin Gabel, Paul Fortner, David Johns, Tom Alfieri, Dave Lepow and Scott Highman. See articles on pages 31 and 42.

PHOTOGRAPHY BY MARK OBERST/IMAGE SOURCE

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THE BEST & THEN SOME

Achieving "Best Places to Work" status involves a complicated calculus. And corporate culture plays a big role.

BY BRUCE RAYNER

All in the Averages

Compare your company to the 100 Best Places to Work averages

STAFFING

Number of IS people hired in 1995	**35 people**
Percent increase of IS staff in 1995	**10.3%**
Percent increase of IS staff in1996*	**10.4%**
IS staff turnover 1995	**2.4 people**
Percent of IS staff promoted in 1995	**13.7%**

COMPENSATION

Average increase in IS compensation in 1995	**3.3%**
Average increase in IS compensation in 1996*	**3.2%**
Average IS compensation:	
Entry level	**$26,300**
Middle management	**$55,200**
Senior management	**$75,000**

Source: Computerworld 1996 Best Places to Work survey

*Projected

Each one of *Computerworld*'s 100 Best Places to Work is on the list because they have exceptional information systems organizations. But because the list is a ranking, it's instructional to start at the top and work down.

The first thing that strikes you as you read down the list of organizations is that four of the top five Best Places to Work are computer companies; in all, seven computer companies are on the list. The reasons are not too hard to uncover. For one, these companies are working on cutting-edge technology, a high priority among IS professionals. In addition, they pay well, they are growing rapidly and there are typically many opportunities for professional growth. (For the ranking and a full explanation of how we chose the 100 Best Places to Work, see page 72.)

Take top-ranked Cisco Systems, Inc. The $3 billion internetworking company blows away the averages. Last year, Cisco promoted 40% of its IS staff, compared with a 10.4% average for the 100 Best Places to Work. The company's salary increases for 1995 averaged 8%, compared with 3.3% overall, and it provided IS employees with an average of 13 days of training in 1995 compared with an average of nine days for all 100 Best Places.

In this day and age of job hopping, such rewards and benefits are required if companies like Cisco expect to attract — and keep — the best and brightest IS professionals. But compensation, access to cutting-edge technology, training and growth opportunities are just part of the formula. To be a Best Place to Work also requires a strong corporate culture that IS staff can identify with.

The criteria *Computerworld* uses to evaluate organizations

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for inclusion on the Best Places to Work list tries to capture corporate culture by including things such as diversity of the workplace and whether or not a company has "progressive" policies with respect to internal communications, child care, elder care, flexible work schedules and telecommuting. But there are other intangible factors that contribute to a culture that are harder to capture. (See "Counting the Intangibles," page 31.)

At Cisco, as with many high-tech firms, the culture is grounded in a strong entrepreneurial drive. (See page 12.) Computer Associates International, Inc., ranked No. 3 on the list, is known for its hard-driving work ethic. (See page 17.) And Hewlett-Packard Co., ranked 96, has the "HP Way," which includes a commitment to zero layoffs. (See page 62.) These cultures are different, but they all serve to mo-

Continued on page 8

100 The 100 Best Places

The following is a list of the 100 Best Places to Work organizations by industry and rank within their industry.

Apparel & Textile
Cone Mills Corp.
Phillips-Van Heusen Corp.

Appliances, Electronics & Electrical Equipment
E-Systems, Inc.
Maytag Corp.
Tyco International Ltd.
Honeywell, Inc.
AMP, Inc.
Lithonia Lighting, Inc.
National Semiconductor Corp.

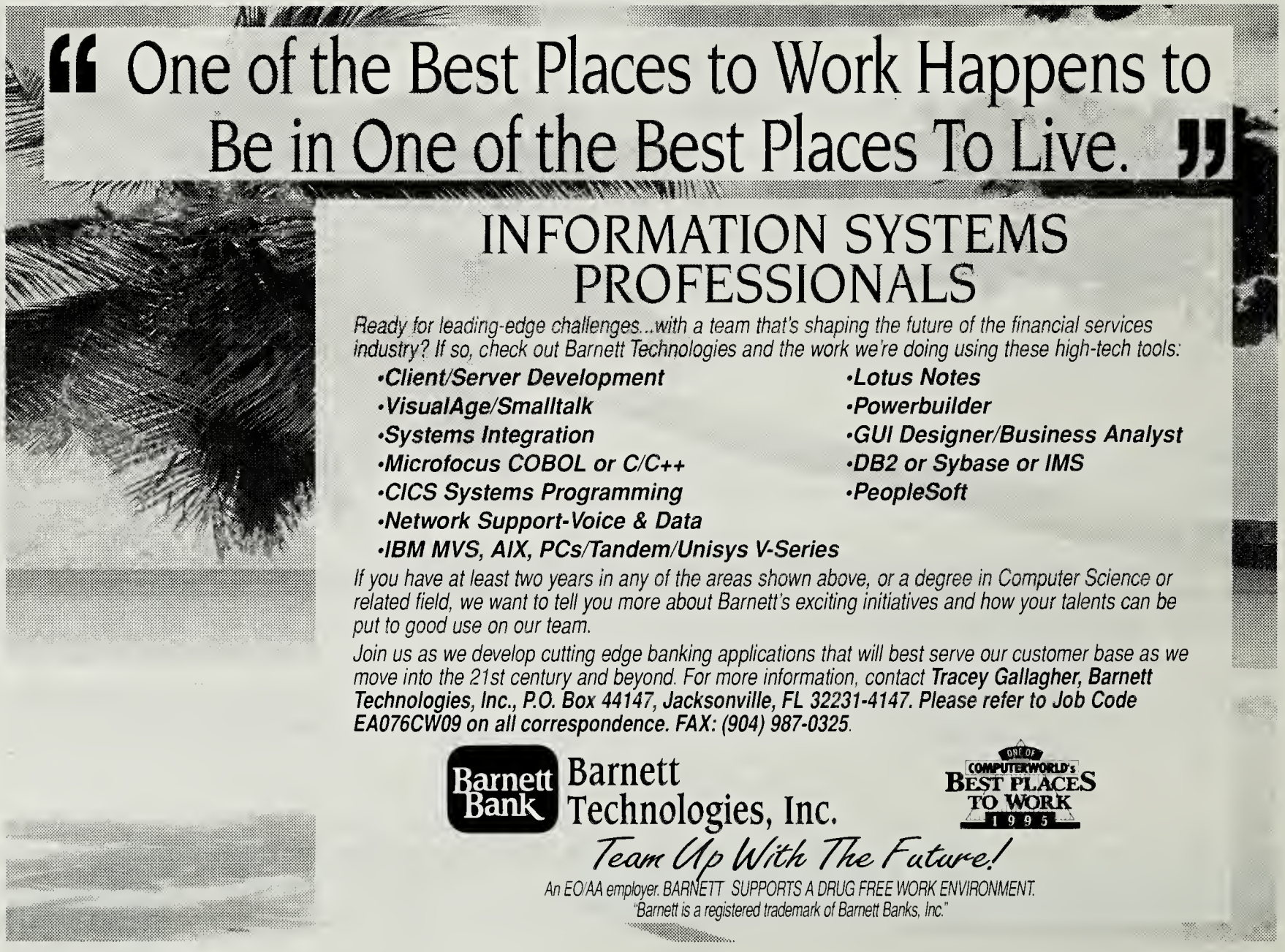
Automotive
Chrysler Corp.

Chemicals, Pharmaceuticals & Cosmetics
Sherwin-Williams Co.
Amgen, Inc.
Avon Products, Inc.
Rohm & Haas Co.

Computer Hardware, Software & Related Products
Cisco Systems, Inc.
Informix Software, Inc.
Computer Associates International, Inc.
Xerox Corp.
Microsoft Corp.
EMC Corp.
Hewlett-Packard Co.

Construction
The Turner Corp.
Fluor Corp.

Education
University of Miami
University of Wisconsin at Stevens Point
University of California at Davis
North Dakota State University
Kansas State University
University of Notre Dame
Bowling Green State University
Florida Atlantic University
University of Delaware



PHOTOGRAPHY BY WILL VAN OVERBEEK

Financial Services & Banking
First NBD Chicago Corp.
Key Services Corp.
Fifth Third Bancorp.
Duff & Phelps Credit Rating Co.
Mellon Bank Corp.
State Street Bank & Trust Co.
First Bank System, Inc.
UNUM Corp.
Fleet Services Corp.
SunTrust Service Corp.
The Equitable Cos.
Barnett Technologies, Inc.
Bear Stearns & Co.
Comerica, Inc.
First Commerce Corp.
Student Loan Marketing Association
People's Bank

Food & Beverage
Campbell Soup Co.
Anheuser-Busch Cos.
Pepsico, Inc.
General Mills, Inc.

Government
U.S. Arms Control & Disarmament Agency
U.S. Department of Housing & Urban Development
Board of Governors of the Federal Reserve System
State of West Virginia, Department of Administration
U.S. Department of Justice
State of Alabama

Health Care
PacifiCare Health Systems
United Healthcare Corp.
Bausch & Lomb, Inc.

Industrial Equipment
Caterpillar, Inc.
Outboard Marine Corp.

Insurance
Massachusetts Mutual-The Blue Chip Co.
US Healthcare, Inc.
Minnesota Mutual Life Insurance Co.
Teachers Insurance Annuity Association
Northwestern Mutual Life Insurance Co.

Metals, Building Materials & Glass
Owens Corning
Parker Hannifin Corp.
Reynolds Metals Co.

Mining, Forest Products, Oil & Gas
Enserch Corp.
Crown Central Petroleum Corp.
AMOCO Corp.
Tosco Corp.
Diamond Shamrock, Inc.
Phelps Dodge Corp.
Champion International Corp.

Professional Services & Consulting
Price Waterhouse LLP
American Management Systems, Inc.
Deloitte & Touche
Interpublic Group of Cos.
Booz Allen & Hamilton, Inc.
Computer Task Group

Telecommunications & Utilities
Entergy Corp.
AT&T Corp.
Detroit Edison Co.
Pacific Telesis Group

Tobacco
Standard Commercial Corp.

Transportation Services
Southwest Airlines Co.
Caliber Technology, Inc.
Consolidated Freightways, Inc.
The Sabre Group, AMR Corp.

Wholesale, Retail & Distribution
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The Home Depot, Inc.
Tech Data Corp.
Wal-Mart Stores, Inc.
Farmland Industries, Inc.
Willamette Industries, Inc.

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tivate employees.

Indeed, some companies on the list would be labeled "bad" places to work in some circles. Caterpillar Corp., for example, has just emerged from a bitter 17-month strike by the United Auto Workers that ended in December. Caterpillar posted a sales increase for 1995 at 12%. But when it comes to the IS shop, the heavy equipment manufacturer ranked 15 on this year's list.

Of course, no one has come up with a foolproof formula that equates an organization's culture or structure with business success. While some academics insist a correlation exists, the causal relationship is unclear. Does culture produce business results, or is it the other way around? (See "Is there a Connection?" on page 58.)

The answer is probably a bit of both.

RAYNER IS COMPUTERWORLD'S SPECIAL PROJECTS EDITOR.

All in the Averages

Training the Best Places to Work provide their IS employees

TRAINING	Offered internally	Offered externally
Information technology	38%	41%
Interpersonal skills and leadership	9%	3%
Personnel hiring, job design, developing, goal setting	8%	2%
Functional business (marketing, finance, operations, etc.)	8%	4%
Diversity (includes race, gender, etc.)	4%	1%
Project management	3%	3%

COURSES

Top three IT courses taken by IS personnel in the last year:	Top three non-IT courses taken by IS personnel in the last year:
1. Client/server	1. Project management
2. Networking	2. Leadership
3. Unix	3. Personnel management

Source: Computerworld's 1996 Best Places to Work survey

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On the Job

Amgen

Richard Chadwick and his staff of 60 work hard every day providing information systems support to various groups at Amgen, Inc. But management philosophy at the pharmaceutical company holds that for employees to remain energetic – IS included – they need to pace themselves and relax every now and then.

So occasionally the Thousand Oaks, Calif.-based company will throw an informal party on a Friday night. Or the human resources department might turn a conference room into an ice cream parlor or organize a company picnic. Chadwick is planning a whale-watching trip for his staff.

"It's important to give employees a breather," says Chadwick, associate director of information systems. "You have to pace yourself. You can't run at full tilt all the time."

Chadwick, who came to Amgen a year ago, says the company has the best working environment and benefits of any of the other four companies he has worked for in his 16 years in the pharmaceutical industry.

Richard Chadwick

Although the company has about 3,700 employees, top managers make a conscious effort to maintain a family environment in the company, says Ole Mikkelsen, manager of network services. For example, at a recent celebration in California of the fifth anniversary of Amgen's very successful blood cell stimulus product Neupogen, Mikkelsen's staff set up a videoconference in Australia, Japan, Germany and England so that all employees could join in the festivities.

— Juan Carlos Perez

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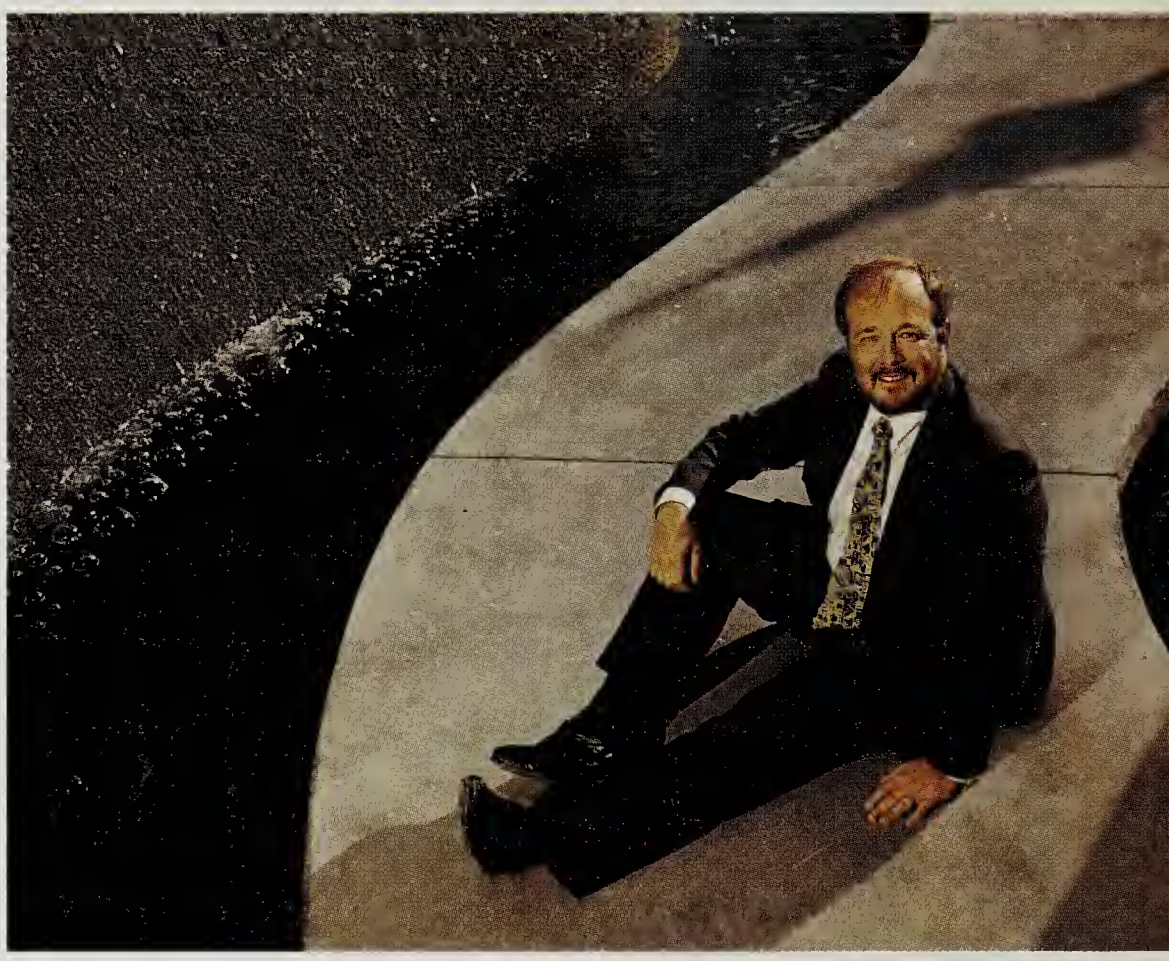
The Best *of* The Best

A close-up view of the Top 5 Best Places to Work

1

Cisco Systems, Inc.



BY ALAN EARLS

Flat, friendly and entrepreneurial. That's how an observer might describe the IS organization that girds operations at Cisco Systems, Inc., the $3 billion San Jose technology company whose products power more than 80% of the Internet.

Flat because Pete Solvik, vice president of IS and chief information officer, has an unusually hierarchy-free organization, with only 15 managers for some 250 staff members worldwide.

Friendliness is evidenced by *Computerworld*'s 1996 Best Places to Work survey: strong promote-from-within practices, a generous pay scale and a rich assortment of benefits such as employee stock purchase programs, company matching 401Ks, flextime and work-at-home policies and even time off for community service work.

As for entrepreneurial, the proof is in the way IS projects actually get funded.

"We have a very customer-driven approach," says Solvik. "All our IS projects are funded by individual business functions within Cisco rather than through a central budget."

And Solvik and his staff look for opportunities to take the lead in sharing effort, technologies and resources across the organization. For example, six business units recently requested separate solutions to similar problems. Solvik's team went back to them and proposed to study the underlying need. This led to a strategic IS solution, rather than a patchwork of quick fixes.

The result has been a string of successful, well-focused IS projects. Less than 2% of Cisco's IS projects get canceled, compared with 10 or 20 times that number at many organizations, Solvik says.

The pressure to keep up with technology is balanced by having a

PHOTOGRAPHY BY ANDY FREEBERG

disciplined approach to systems design with little variation from standard architecture permitted, Solvik says. "As much as possible, we use common software packages to support large functions including the largest workload single database installation of the Oracle application in the world with some 75G bytes," he says.

AT A GLANCE

Cisco Systems, Inc.

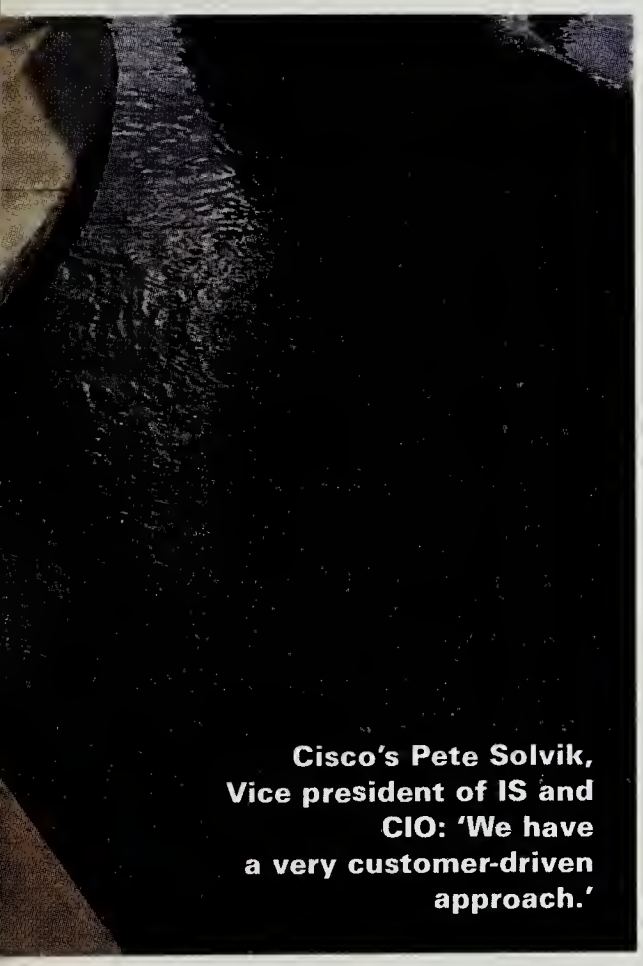
1995 revenue: **$2B**

1995 net income: **$679M**

IS employees: **157**

Percent projected IS staff increase in 1996: **10% - 20%**

Solvik also notes, "We have no legacy systems. We finished our big conversion last year. What remains is all Unix-based and almost all client/server."



Cisco's Pete Solvik, Vice president of IS and CIO: 'We have a very customer-driven approach.'

That conversion project, says Solvik, has come to symbolize the esteem in which IS is held by the corporation as a whole. The legacy conversion team won the company's internal recognition as Super Team of the year, beating out technical groups from the product side of the company.

In the case of tapping the World Wide Web, Solvik says IS has become the driving force, setting the direction for corporate strategy and the standards for how the Web will be used to strengthen relations with customers. Indeed, IS is now spending nearly a third of its capital and operating budget on Internet-related activities.

An entrepreneurial climate extends throughout IS. Alan Etterman, director of IS networking and telecom, notes that corporate objectives are linked down to the department level in IS, "so that every individual knows how their work contributes to the firm's success."

Furthermore, as senior IS recruiter Janel Canepa notes, compensation is also based on results. "Pete [Solvik] is very good at rewarding and recognizing outstanding individual and team performance," she says.

Explosive growth

Cisco's go-get-'em culture is tied closely to the company's dramatic growth. A three-year veteran, Etterman started working at Cisco "when we were small, around $500 million." Living with fast growth — up to 80% annually — is the most difficult part of work in the IS organization, he says.

"We hire two to three people a week in IS," Etterman says. "When I started here we had 30 employees in IS; now we have 250."

Dealing with that kind of growth can be difficult, Etterman admits. "When we hire we have to look for people who will meet our future needs, not just our present size," he says.

To help IS keep in focus, Etterman says the organization practices "offensive" outsourcing. "We outsource everything that isn't business-critical for Cisco," he says. That means more than half the total head count is comprised of temporary or contract help and

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EARLS IS A FREELANCE WRITER BASED IN FRANKLIN, MASS.

2 *Informix Software, Inc.*

BY ALAN EARLS

Tom Holt's job is not for everyone. As executive director of MIS at Informix Software, Inc., Holt must manage dramatic growth, keep up to speed on bleeding-edge technology development and serve as a manager to a staff of 165 scattered throughout the world. There aren't enough hours in the day.

The fast-growing vendor of parallel processing database technology has logged 50%-plus annual revenue growth recently and has edged out more established competitors for market share. IS staff growth has been nearly as significant, averaging about 30% per year.

Holt's department has had something to do with that success. "Because of the nature of the company," he says, "we in IS must provide the same support to business functions as any organization, but it must also function as a partner in the development and rollout of new software."

Participation in technology development goes a long way to boosting morale. "I've had more respect and more decision-making capacity at Informix than at any company I've ever worked for," says Bob Coombs, who held previous IS positions at Sprint Corp., H&R Block and IBM before becoming director of MIS in Informix operations in Lenexa, Kansas.

Ensuring that MIS is always able to keep up with the "bleeding edge" technology Informix develops for customers requires extra effort. For that, Holt has assembled a strong technology group comprised of half

Continued on page 15

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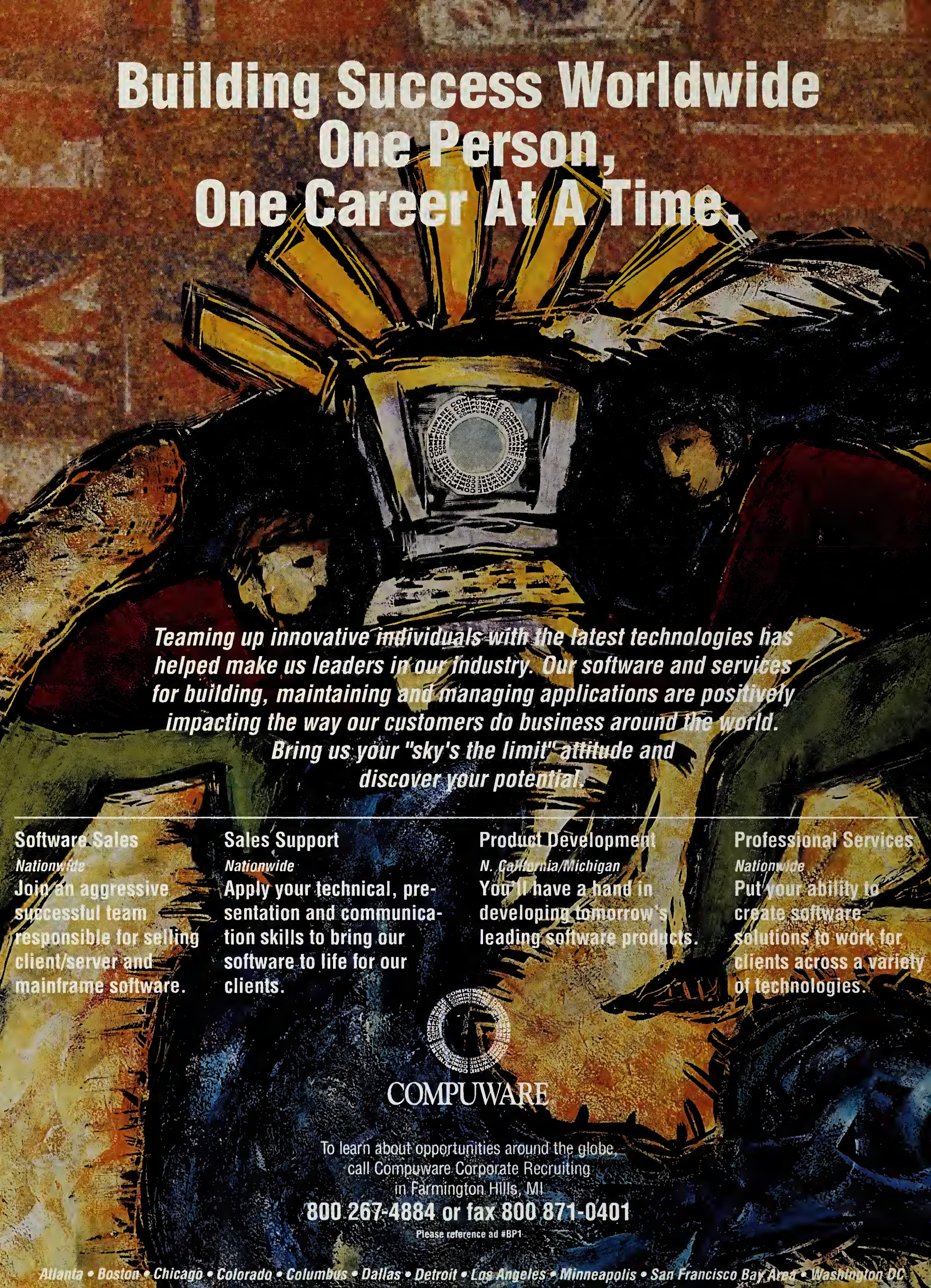

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2 *Informix Software, Inc.*

Continued from page 13

a dozen people within the IS department. Holt says the group is chartered to explore opportunities that stand a good chance of being adopted and also researches specific problems faced by IS. Holt cites as an example the internal data warehouse setup that began as a research project in the technology group.

Keeping IS staff motivated and prepared for the challenges of constant growth, change and increased responsibility has meant investing heavily in education, providing strong compensation (expected to rise by more than 10% this year) and benefits such as profit-sharing, flextime and even help with elder care. Above all, though, it has meant creating a corporate culture that rewards individual development.

AT A GLANCE

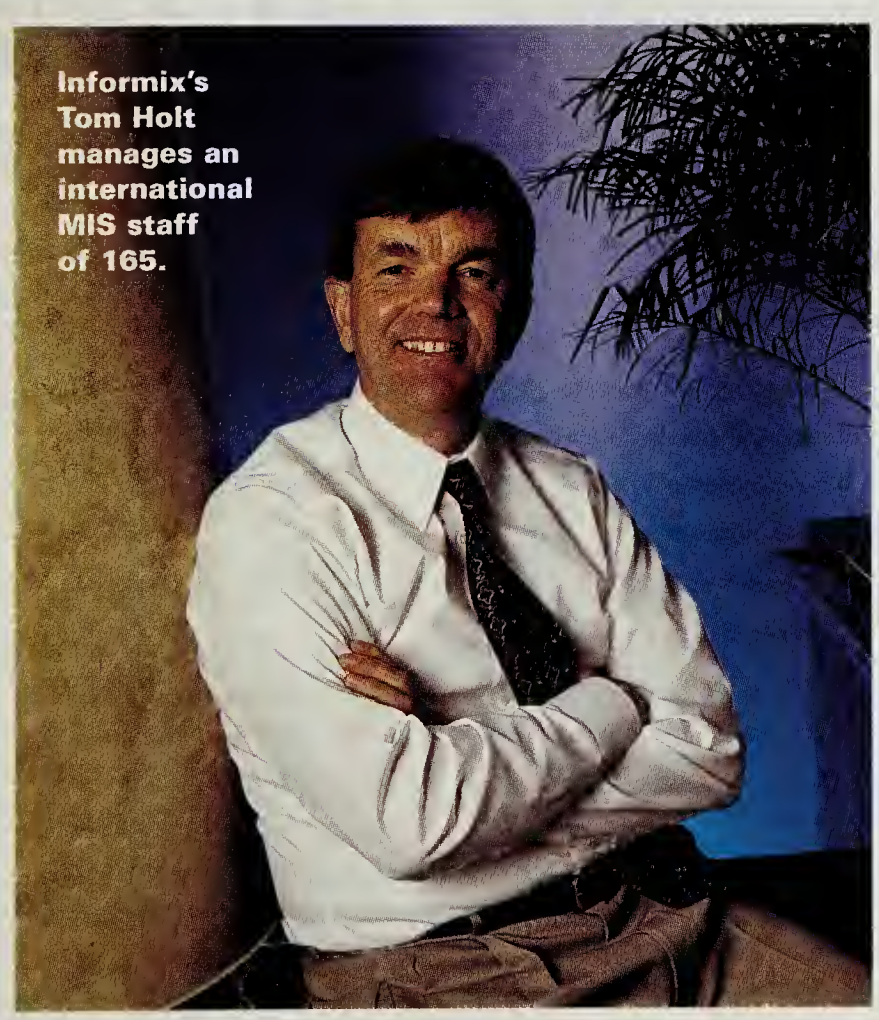
Informix Software, Inc.

1995 revenue: **$709M**

1995 net income:**$105M**

IS employees: **167**

Percent projected IS staff increase in 1996: **38%**



Informix's Tom Holt manages an international MIS staff of 165.

"Tom [Holt] is what I call a backseat teacher," says Bernard Geoghegan, MIS manager for the European Data Center in Dublin, Ireland, one of 11 IS sites outside the United States. "He will stay in the background and give people lots of freedom until he sees a real need to get directly involved."

Niamh Kilroy, an analyst/programmer, also in Dublin, is one of the women who now comprise more than 40% of Informix's MIS department. She agrees that growth and learning are priorities within the organization. "There are plenty of opportunities for training and working on particular projects that may interest you," she says.

Not surprisingly, Informix ranks high in expenditures for training. Last year's top topics included Unix system administration, object-oriented programming and computer-aided software engineering. But it's not all work and no play. Dave Pepper, another Menlo Park project manager, says Holt tries to avoid overtime needs by outsourcing projects where appropriate. Holt says Informix is now poised for another reorganization into two tiers. A regional organization will be crafted to maintain close ties with the user community, and a corporate level will focus on strategic issues such as architectures and project development.

Change, yes, but it's all in a day's work for Holt.

3 *Computer Associates International, Inc.*

BY CANDEE WILDE

Earlier this year, the R&D group at Computer Associates International, Inc. had been gunning hard, aiming for the March beta-test deadline for Unicenter/The Next Generation, CA's newest management system that uses imagery and three dimensional animation to display the user's physical IT infrastructure.

The pressure to get this new product out before the end of the fiscal year, March 30, had been tremendous, according to Reuven Battat, senior vice president of research and development and a 10-year CA veteran. "My people were working many weekends in a row, and when I left late at night, I'd still see them at their desks," he says about the final days of development. (Unicenter/TNG went into beta test right on schedule in late March at a company in Orlando, Fla.)

Battat recalls a meeting with Charles Wang, chairman and CEO of CA, when Wang said he wanted the IS staff to go home early and not work over the weekend. And everybody still stayed. "It shows how excited people are," Battat says.

Intense dedication to getting the job done is a big part of CA's culture. So is a genuine excitement about working on leading-edge technology. Case in point: Steve Lee, assistant vice president in CA's IS department.

As the result of a recent IS organizational expansion, Lee will lead CA's drive to use more advanced technology internally. His first project is to develop an automation tool that sales represen-

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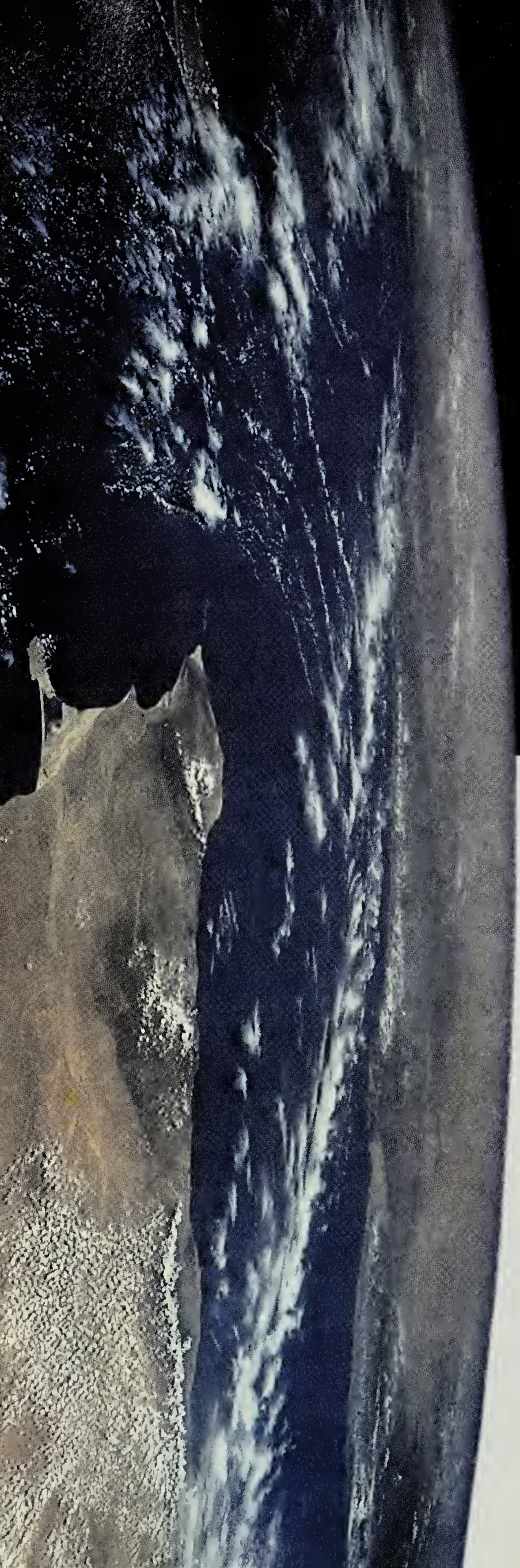
PHOTOGRAPHY BY CINDY CHARLES



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3 *Computer Associates International, Inc.*

Continued from page 15

tatives worldwide will be using with new laptop computers over the next few months. This will replace the mainframe system that is currently in use.

Changing gears and taking on new assignments is familiar to people at CA, says Lee, who has been at the company for 10 years.

"People here are self-starters," he says. "You get something thrown at you and you go with it. It keeps things exciting and I think that's why people stay; there is always something new." Lee also likes the fact that "even managers get their hands dirty with developing applications. We're lean and mean."

Tom Abrew, a quality assurance technician who has been with CA for almost three years, expresses a similar excitement about his work. When he talks about his current project, Unicenter/ICE, a management system for Internet and intranet environments, he becomes animated. "The Internet is the hottest thing in the industry, and to be working with 3-D interfaces and high-end graphics is pretty neat," he says. "The diversity of challenges here is great. I've learned so much and been exposed to new technologies on a regular basis."

In addition to the rewards of working with new technologies, CA offers competitive financial rewards which, according to Abrew, "are truly tied to job performance. I am not limited by any rigid salary structure."

Last year, all CA employees received a 9% contribution to their 401k plans, and roughly 40% received stock options based on merit. Base salaries are highly competitive, according to *Computerworld*'s Best Places to Work survey. CA also provides a broad range of nonfinancial benefits for employees. Battat, for example, sends his 2-year-old to the on-site day-care center, which has 30 teachers for 100 children. And Abrew spends most lunch hours working out in the fitness center, which is staffed from 7 a.m. to 9 p.m. and includes racquetball, basketball, aerobics and weight training.

AT A GLANCE

Computer Associates International, Inc.

1995 revenue: **$2.6B**

1995 net income: **$432M**

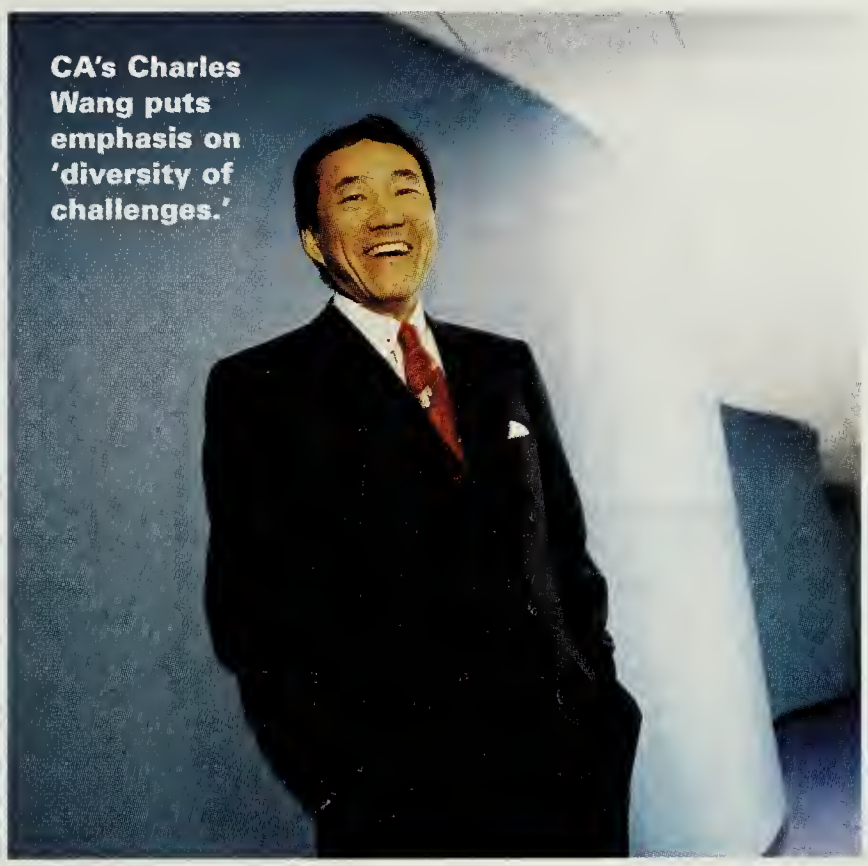
IS employees: **N/A***

Percent projected IS staff increase in 1996: **more than 20%**

*Not available

For R&D vice president Ken Lehman, who also has been with CA for 10 years, the company's open atmosphere is one of the attributes he enjoys most. People don't have to "cover their butts," Lehman says.

"Within CA, from Charles [Wang] on down, accessibility to people is one of the advantages [of working here]," he says. "I've worked at other companies where you would never see a senior vice president or the CEO. Here, if we have an issue, we talk it through, learn from our mistakes and go forward."



CA's Charles Wang puts emphasis on 'diversity of challenges.'

Abrew agrees that he feels no barriers to speaking his mind. "I wouldn't hesitate to voice my opinion to my boss or my boss' boss," Abrew says. "And if I'm getting behind in my job, my boss doesn't hesitate to come tell me."

CA has tried hard to retain a small-company feel, even though it has revenue of $3 billion and approximately 9,000 employees in 36 countries. It's not unusual for Wang to address employees by their first names, according to Lehman. And in this era of downsizing in the IT industry, CA employees may feel a little safer knowing the company hired 1,752 people in 1995 and plans to hire more next year.

Training is key

Training is a high priority at CA. On average, employees receive 11 to 15 days of training per year, at a cost of $10,000 to $12,000 per employee. Approximately 90% of the courses are taught by company-employed instructors. IS training has concentrated on C, C++ and Unix. Training takes place using an even mix of classrooms, distance-learning, computer-based training at employees' workstations and self-paced programs using books or videos.

For many of the projects that Battat and his staff work on, the technology is brand new. "There is nowhere [outside CA] to go to learn about it," he says.

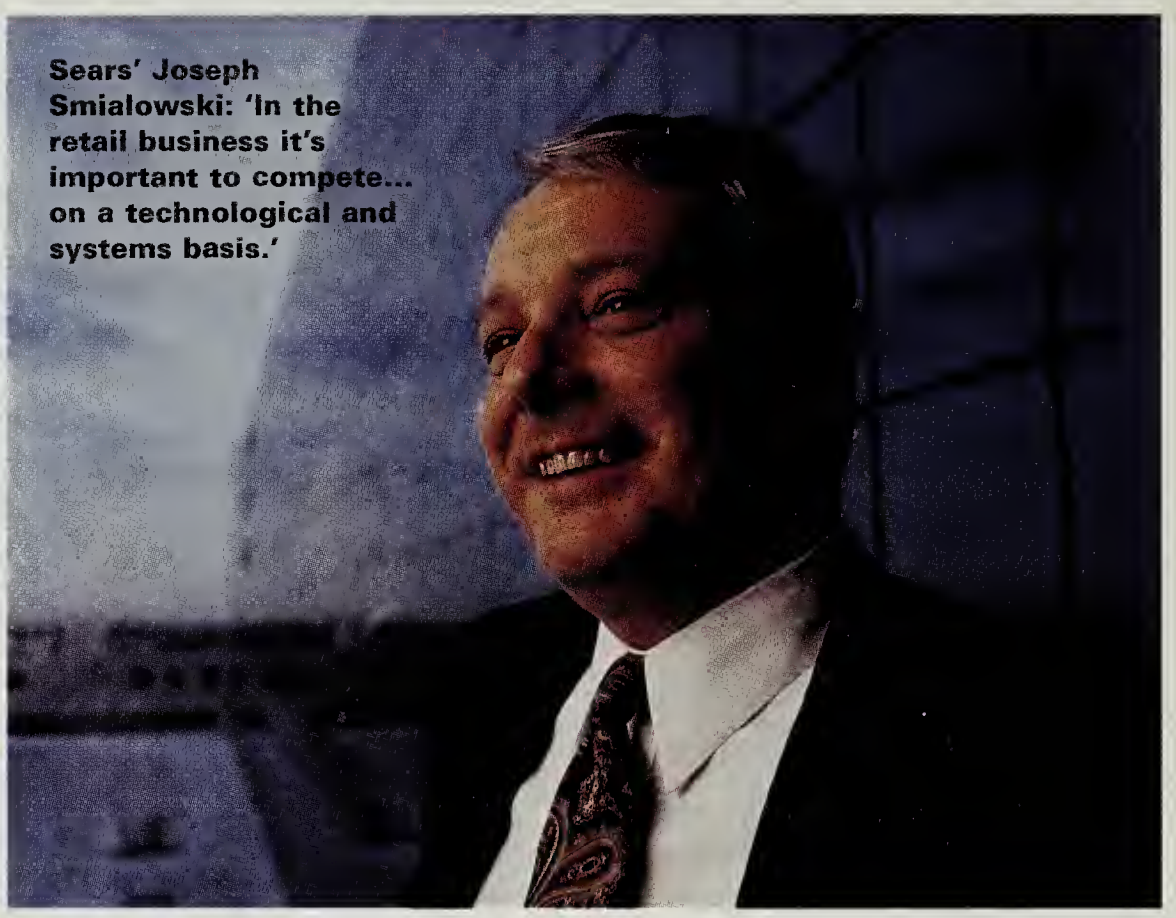
While CA is known for its demanding work ethic, the environment suits many: The company's annual turnover is a low 6% to 9%.

Neither Abrew, Battat, Lehman nor Lee could think of a reason they would leave CA for another job. "I've been getting calls from headhunters twice a month for 10 years," says Battat, "and nothing has worked so far."

WILDE IS A FREELANCE WRITER BASED IN EASTON, CONN.

PHOTOGRAPHY BY LILLY DONG

4 *Sears, Roebuck and Co.*


Sears' Joseph Smialowski: 'In the retail business it's important to compete... on a technological and systems basis.'

BY STEVE ALEXANDER

Thanks to stock options granted to salaried professionals at Sears, Roebuck and Co. two years ago, Pat Welter, an IS systems consultant, was able to share in a resurgence of the company's retail business last year.

Welter, a middle manager with a staff of six whose salary is in the mid-$50,000s, is enthused. "The stock price is about double the option price of two years ago. That's pretty good for a guy at my level," he says.

He figures he might make $25,000 before taxes over the four years in which the options become available. "It makes you think, 'What can I do here to keep the stock price up?' " he says.

The stock options combined with some major IS changes are part of the new thinking at Sears. Those changes have helped push the retailer to No. 4 on this year's list of Best Places to Work, up from No. 22 last year.

AT A GLANCE

Sears, Roebuck and Co.

1995 revenue: **$35B**

1995 net income: **$1.8B**

IS employees: **900**

Percent projected IS staff increase in 1996: **1% - 4%**

The big changes in Sears' IS include, for the last two years, tying 15% of annual cash compensation (excluding stock options) to the overall performance of the company, says Joseph Smialowski, senior vice president and chief information officer at Sears.

Because the company did well in 1995, the average increase in total IS compensation was 10% or more, well above an average salary hike of about 5% for all companies on the Best Places to Work list. "We are pioneers in doing this for IS in a retail company," Smialowski says.

The IS changes also included moving IS away from an era of missed delivery deadlines and poor system designs, and having IS people view themselves as working in the retail business rather than the information systems business, Smialowski says. As part of that, Sears required 10 days of IS training annually and concentrated on responding to calls for help the same day instead of overnight.

One of the key ways IS got management support for these changes was by contributing to a financial turnaround at Sears. IS cut costs 35% over the last two years, Smialowski says. The cuts involved standardizing databases and renegotiating outsourced communications contracts, he says.

"In the retail business it's important to compete not only with merchandising or distribution, but on a technological and systems basis," Smialowski says.

For example, Sears has begun using computer-aided design (CAD) and data warehousing to tailor individual store designs and merchandise offerings to local markets. Sears also has begun using wireless technology for in-store LANs that link point-of-sale terminals and portable computers used by people who stock shelves. Wireless also is used for wide area networks that link Sears home appliance delivery and repair employees.

The data warehouse effort, called Sears Performance Reporting System, seeks a daily correlation between an individual store's sales, types of merchandise and inventory. "You can identify patterns unique to a particular store and change the assortment of items you carry there. What we're striving for is not just 'Let me see what's happening' but sorting local market information," Smialowski says.

The intent of the CAD project is to change the internal look of individual stores rather than design look-alike facilities for the 800-store chain. Visual renderings show how merchandise displays will look before they are created. Wal-Mart has since begun a similar CAD plan, Smialowski says.

"IS has become one of the critical elements in our arsenal," he adds.

ALEXANDER IS A FREELANCE WRITER BASED IN EDINA, MINN.

PHOTOGRAPHY BY MARC BERLOW

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5 *Xerox Corp.*

BY STEVE ALEXANDER

The year 1995 was not the easiest for IS employees at Stamford, Conn.-based Xerox Corp. Following a 10-year $3.2 billion outsourcing contract with Electronic Data Systems Corp. in July 1994, Xerox transferred responsibility for managing its older technologies, including all mainframe, minicomputer and telecom operations, to EDS. Xerox also transferred 2,500 of its IS support staff members to EDS.

The move paved the way for Xerox to create a 670-employee IS workforce devoted to new technologies. Of Xerox's remaining 770 IS people, 200 took early retirement and 100 transferred to non-IS jobs, leaving a core of 470. Since then, Xerox has gone outside to rebuild IS, hiring 200 employees.

It's all part of Xerox's IM 2000 strategic information management plan, according to Alan F. Nugent, vice president of global strategy and advanced technology. IM 2000 was based on four strategies: cutting and redirecting IS spending through centralizing IS and phasing out legacy systems over seven years; shifting to client/server; using the same technologies worldwide; and reusing software modules throughout the company.

"[IM 2000] changes the model of delivery of information management services to the organization, and, therefore, it changes the skills requirements of the people in the organization," says Pat Wallington, corporate vice president and CIO at Xerox.

One consequence: rising entry-level IS salaries as the company seeks hard-to-find new technology skills such as object-oriented development.

AT A GLANCE

Xerox Corp.

1995 revenue: **$16.6B**

1995 net income: **$1.17B**

IS employees: **750**

Percent projected IS staff increase in 1996: **10% - 20%**

Still, the huge outsourcing badly hurt IS morale at Xerox, says Bob Monastero, director of human resources for the Global Process and Information Management (GPIM) organization.

"We tried to do it as best we could, but morale did sink despite our hopes. Many of the people who were outsourced came here to work until retirement, and we took that away from them. Morale dropped for those left at Xerox, too. They didn't understand what IM 2000 meant to them."

Pat Wallington, corporate vice president and CIO, Xerox

The changes came at a time when Xerox was installing 80,000 new PCs within 24 months.

Monastero says things are better now. "I would not say all the IS people are believers in IM 2000 yet, but we've turned the corner and the cynicism has gone away. They're now looking at it as a real possibility."

One big difference IM 2000 has made is that IS people typically are assigned to work on several different project teams at the same time as part of a collaborative work style, Nugent says. Before IM 2000, they probably would have been assigned to one project at a time.

Lower-than-average turnover at Xerox last year was the result of the attractiveness of working with new technologies and the company's big investments in employee training programs, Nugent says. Xerox IS employees are expected to devote about 80 hours a year to training; those transferred to EDS get about 24 hours a year because their jobs didn't change as much.

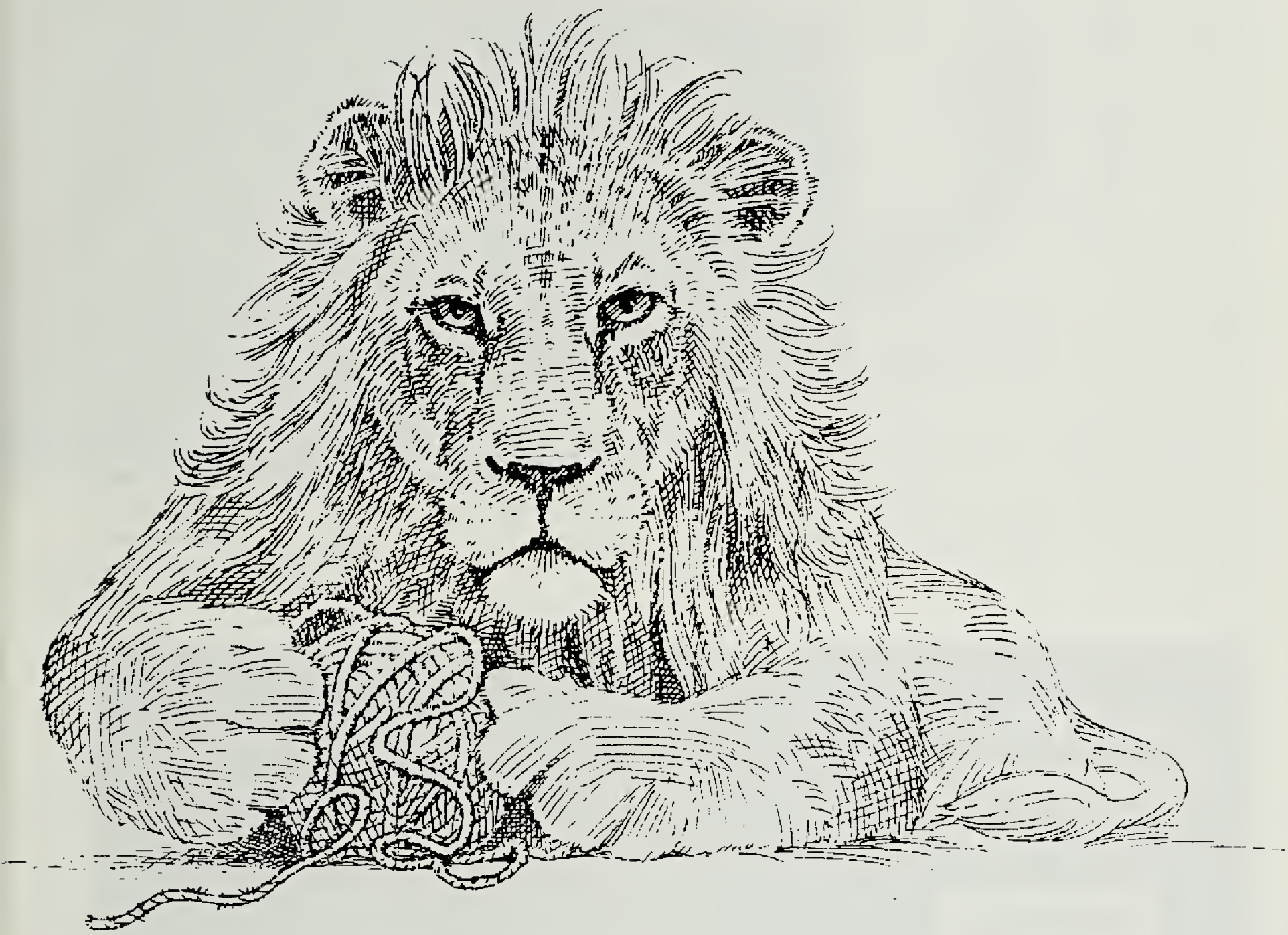
Mark Palmer, a solutions development manager with a staff of 40 within Xerox's GPIM organization in Rochester, N.Y., says he's seen few people lured away from Xerox during his 15-year tenure at the company.

"Over the years I've rarely seen people intentionally try to leave because of better offers elsewhere," Palmer says.

Benefits are one of the keys to making Xerox an attractive place to work, says Mary Ellen Travers, an IS project leader who works for Palmer. "Because I have two young children, it's important to me that there is management at Xerox that is supportive and understanding of the kinds of problems you have as a parent," she says. "If I have a day-care breakdown, I can call a special Xerox-sponsored day-care service that will send someone to my house.

"I know IS people who work at some sizable companies that don't have that benefit," she says.

PHOTOGRAPHY BY KENT HANSON



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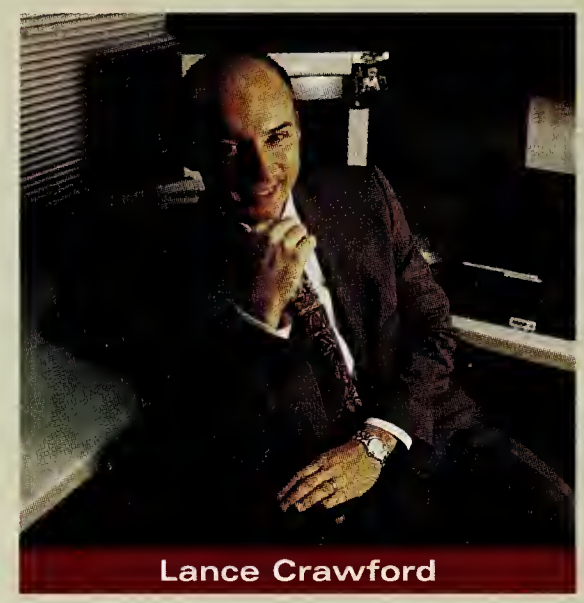
On the Job

AMR, The Sabre Group

When Lance Crawford joined The Sabre Group straight out of Oklahoma State University 10 years ago, he felt confident that the company was a good fit for him.

He wasn't wrong. Today, Crawford is the product manager for wireless data technologies at Sabre Computer Services, a business unit of The Sabre Group, the technology division of American Airlines' parent company, AMR Corp. (Sabre stands for Semi-Automated Business Research Environment.)



Lance Crawford

Crawford's work gives him constant exposure to leading-edge technologies that keep him excited about his job. That work includes overseeing the development of portable, wireless hand-held devices for AMR's 70,000 mobile employees. Mobile terminals can be used by both check-in clerks to speed up passenger processing and maintenance workers to update a plane's takeoff status in real time.

"This kind of stuff will change the way corporate America does business," Crawford says. "That gives you a good feeling."

In addition to his hands-on work with new technologies, Crawford enjoys Sabre's extra perks such as the "substantial" flying discounts and educational opportunities.

The company keeps its employees up to date with training in new technologies and upper-level education courses. Crawford recently finished a condensed master's program in business focusing on finance and marketing to better help him manage his team and unit.

"It's an excellent place to work and to learn because they offer a wide range of opportunities," Crawford says.

— Melissa Bane

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A Day in the life of an IS Profes

Meet Gary Stankiewicz. He's worked at Mass Mutual for 15 years and still loves his job. Here are five reasons why.

Entering Massachusetts Mutual-The Blue Chip Co. in Springfield, Mass., feels like stepping out of a time machine – but upon exit, you're not sure what year you set the dial for.

The severe facade of the company headquarters building and the spacious rotunda that serves as the lobby are throwbacks to a bygone era — a time-warp to the early days in the life of the 115-year-old company. Days when "loyalty" was more than a business buzzword.

Everywhere you look within the 1.6 million-square-foot building, you see Mass. Mutualites — chatting with spouses and children in the colossal cafeteria, buying candy and greeting cards at the company store, watching college basketball on a large-screen television, dropping off their dry cleaning or shoes for repair, getting a trim in the barbershop or browsing through the bookshelves in the company library. Everything they need is right there, behind the company's big brass doors.

It is not unusual to find people who have spent their entire careers with the company. Last year, while most companies were downsizing, Mass. Mutual added 100 information systems service staff — a 1% increase. The company also increased total IS compensation by 8%. During the past two years, not one IS employee has been laid off.

"The day they hired me, I knew I wanted to retire here," says Gary Stankiewicz, Mass. Mutual's senior technical consultant. Fifteen years later, his feelings haven't changed.

But digging a little deeper beneath the surface, a late 1990s image of Mass. Mutual is revealed. The life insurance company, with nearly $104 billion in assets under management, offers its employees all the leading-edge benefits such as flextime, part time, job-sharing, day care, tuition aid and a fitness center.

As for technology, Mass. Mutual is involved in the latest: object-oriented development, fiber optics, client/server systems, videoconferencing and Internet and intranet projects.

It even has an "office of the future" equipped with full-motion video, voice dictation technology and the ability to view three-dimensional Virtual Reality Modeling Language documents.

"If it exists," says Stankiewicz, "we've got our finger on it somehow."

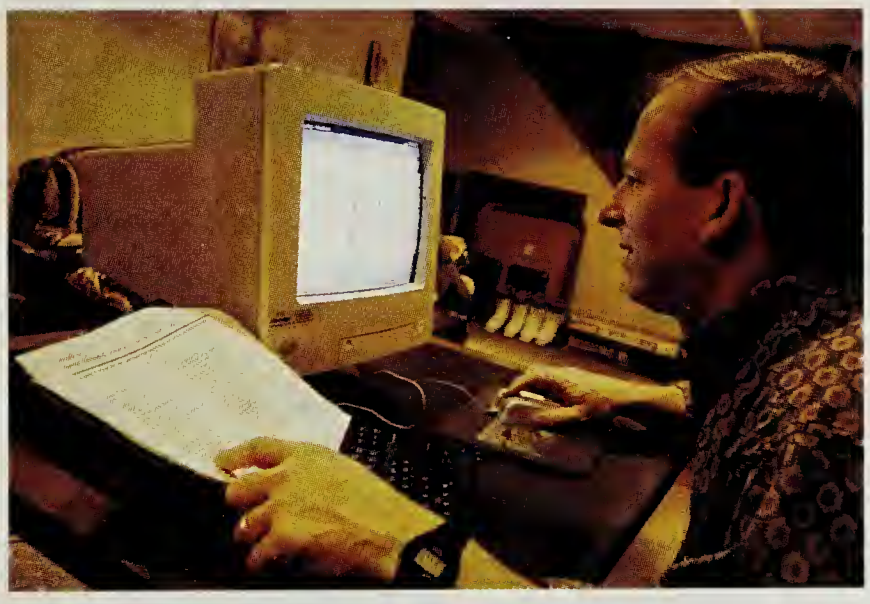
Gary Stankiewicz and his wife, Chris, are both IS professionals at Mass. Mutual. It was Chris who encouraged Stankiewicz to join the firm. "He has such an analytical mind," she says, "I knew he would like it here."

PHOTOGRAPHY BY JOHN SOARES

BY NATALIE ENGLER

sional

It may have a severe facade, but there's nothing severe about its work environment. At No. 6 on the list, Mass. Mutual is one of the very Best Places to Work.



Working at home. Gary Stankiewicz is a member of the company's ISDN pilot project, and he has an ISDN line into his home. "I made ISDN a personal hobby, and they invited me into the group," he says.

1. All in the family

Stankiewicz's wife, Chris, joined Mass. Mutual in 1979, two years before Stankiewicz. She began working as an accounting trainee but soon moved into the information systems group. At that time, Stankiewicz was unhappily working for his family's auto body company. Whenever Chris was called in to troubleshoot a system in the middle of the night, her husband would join her. As she worked, he asked her questions about what she was working on. Eventually it dawned on Chris that Gary should apply for a job at Mass. Mutual.

It took Stankiewicz two tries, but eventually he was accepted into the company's programmer trainee program. Less than a year later, Chris took a 12-year hiatus to raise the couple's three children, Carolyn, Jennifer and Jeffrey. Today she works part time: 8:00 a.m. to 1:00 p.m., and she has summers off. If the company had offered daycare and flextime 12 years ago, she says, "I never would have stopped working."

2. Powerful home link

Integrated Services Digital Network (ISDN) is Gary Stankiewicz's latest technological obsession. Last year he began spending his free time exploring it "just for fun." After asking dozens of questions and providing feedback to the communications projects and planning group (the team in charge of the company's ISDN efforts), he was asked by the team to help with its pilot project. Stankiewicz was thrilled. Now he is responsible for figuring out how to make the company's management workstations ISDN-capable.

Because of his involvement in the ISDN project, Mass. Mutual pays for an ISDN connection to Stankiewicz house in West Springfield, Mass.

"Because of my interest and the benefits they derive by letting me play, we help each other and both end up better off," he says. Mass. Mutual gets a knowledgeable beta tester, and Stankiewicz gets to pursue a personal interest and enjoy a speedy dial-up from home.

3. The boss as mentor

Stankiewicz's supervisor, Bill Conley, who is the director of information systems services, is both a mentor and a friend, Stankiewicz says. They have lunch together every day and talk about everything, from their families, to the latest dispute with a vendor, to buying a new lawn mower.

Continued on page 26

Stankiewicz eats lunch in the company cafeteria with his boss, Bill Conley, on a regular basis. "He'll counsel me, support me and let me whine on bad days," Stankiewicz says.

Continued from page 25

"We tease Gary," laughs Conley, who has been at the life insurance company 26 years. "He has an overwhelming curiosity about technology – down to alarming levels of detail." Conley recalls an instance when a team member mentioned a new furnace. Stankiewicz knew the location of the oil input spigot and the type of oil the furnace required down to the number on the label.

"It's obvious that I am not going to be able to teach him anything about technology," Conley says. "So my job is to open up doorways that he hasn't pushed open himself." Stankiewicz notes that Conley has shaped his career by helping him "grow the talent and an appreciation for what it takes to progress through the IS management ranks."

4. Variety on the job

Ask Stankiewicz about his favorite part of the job, and he'll say it's the variety.

From techie to tutor, Gary Stankiewicz relishes the variety of his job. Here, he explains new features to Mass. Mutual senior business executives.

One minute he's getting "down and dirty" with a new client/server administration system for the Pension Management line of the business. Half an hour later he could be in a senior vice president's office talking about the

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business implications of one of the initiatives he's working on.

Most recently, Stankiewicz played a significant role in the March merger with Connecticut Mutual Life Insurance Co., by chairing the application requirements team.

"When you get to go from the low detail level to the senior management level in the same day," he says, "you can't get bored."

5. Volunteer service

In 1994, Mass. Mutual awarded $1.7 million in charitable contributions to Springfield organizations such as the Western Massachusetts Food Bank Inc., the Parents' Association of Youth Sports and the Salvation Army. Frequently the company offers the services of its staff on a volunteer basis to help the organizations get the most for their money.

Over the past few months, Stankiewicz has been working with the nearby South End Community Center, Inc., which received a $2,000 Mass. Mutual grant to upgrade its hardware and software. Stankiewicz helped the center assess its needs and encouraged it to purchase a Pentium-based PC with Windows 95, Microsoft Office and some general-purpose accounting software tools.

Gary Stankiewicz volunteers at the South End Community Center. "It's really fun to see someone's eyes light up when they understand something," he says.

Stankiewicz says donating time to the community offers him a "great change of pace" from the mad rush of everyday life at Mass. Mutual. It also offers an opportunity to share what he has learned.

"There's just so much information that affects our daily life in an IS role," Stankiewicz says. "We need to share it with one another. Most of what I've learned, I've learned through other people. I get enormous satisfaction being able to give that back."

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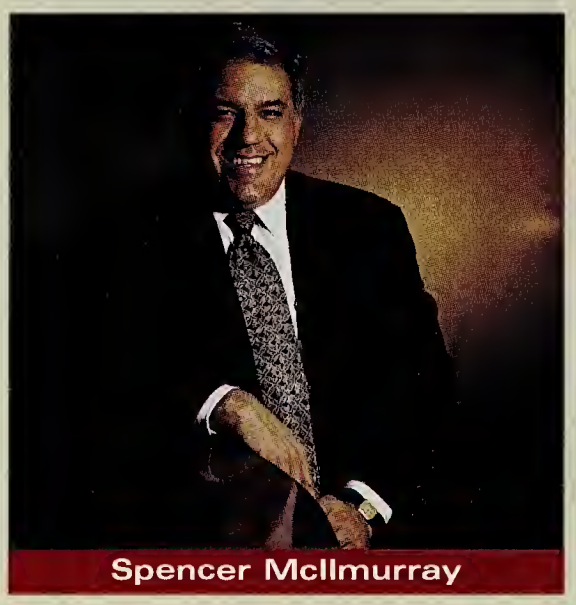

Spencer McIlmurray

Each sales rep orders products from new Avon catalogs, which are created every two weeks and contain a different combination of Avon's 6,000 products, from its well-known health and beauty items, to clothing, videotapes, books, gifts and decorative items.

"From an IT perspective, it is challenging," says Spencer McIlmurray, who has been Avon's vice president of information technology services for two years. Perhaps the biggest challenge, he says, is to manage routine but essential tasks and find time to focus on creating long-range plans. "I wanted people to take ownership of how we would best develop as an organization to support the company," he says.

While the IS management team works with individual employees to help them plan for promotions, McIlmurray refuses to become a surrogate parent. "Employees have to take a responsibility for their careers," he says.

Every quarter, all IS employees work with their immediate boss to establish three primary growth and career development objectives. To encourage employees to develop new skills, McIlmurray spearheaded the creation of a learning center in the Rye, N.Y., facility, which offers 100 classes and seminars annually. He has also initiated an IS development lab.

"We are transforming ourselves and showing we have the ability to have a positive impact on the business," he says.

— Candee Wilde

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Some things can't be measured. The Best companies go the extra mile to motivate their IS staffs.

BY AMY MALLOY

Here's a look at the offbeat ideas some of the Best Places to Work institute to motivate and assist their IS employees.

Balls in the air: Owens Corning

Jugglers walk through the halls, practice in the lunchroom and coach each other at the water cooler. No, this is not tryouts for Ringling Bros. and Barnum & Bailey Circus. These are information systems employees at Owens Corning in Toledo, Ohio.

"Within IS, juggling is a great metaphor for what we are doing, which is getting everybody involved, mastering their competencies and learning by doing," says Michael Radcliff, Vice President and Chief Information Officer. Juggling is also an appropriate metaphor for managing multiple projects. So at an IS training workshop, Owens Corning's IS staff made a commitment that everyone in the department would learn how to juggle (with the help of an instructor).

The exercise has been a useful tool for understanding the job at hand. "You can't learn to juggle three balls at once. You have to learn to juggle one, learn to juggle two and then learn to juggle three," says Bob Heinaman, resource development leader. The same applies to IS projects — they need to be broken down into smaller components. If the entire project is tackled at once, it becomes difficult to manage.

Once an employee mastered juggling, he became an instructor. "We are not done until everybody can juggle. We all have a responsibility to ourselves for individual transformation, but we also have a collective responsibility to help everyone on the team make the transformation as well," Radcliff says.

The IS team extends beyond the Owens Corning headquarters, encompassing branches throughout the world. Many branches learned how to juggle during the IS training. "The juggling was part of the continuity from workshop to workshop. We focused information systems as a global team. We tried to create a common experience to help with team behavior, team identity and, ultimately, team success," Radcliff says.

Rising to new heights: Cisco Systems

Would you climb 30 feet in the air relying only on your co-workers and a few ropes for support? Employees in the networking and telecommunications department at San Jose, Calif.-based Cisco Systems, Inc. did. The staff spent an afternoon last October at Planet Granite, a local indoor rock-climbing facility. Allan Etterman, director of networking and telecommunications, and his staff paired off and took turns climbing the rock blindfolded while a partner called out directions. "It was team oriented, and the team had to support each other at different levels," Etterman explains.

The reason for the rock-climbing expedition? Cisco had hired 14 new IS employees in the networking and

Continued on page 32

ILLUSTRATIONS BY PETER HOEY

Continued from page 31

telecommunications department (including contractors) during the past year, and Etterman wanted to give them a chance to get to know one another in a social setting. By the end of the afternoon, employees were relay-racing up the rock. Time permitting, Etterman hopes to get his team together for more activities. "Everybody works so hard here that it is very difficult to get somebody to take 30 minutes off, let alone three hours or more," Etterman says.

Getting an education: Barnett Banks

Since she was 10 weeks old, 5-year-old Kayla Petrey has spent her days at Barnett Banks in Jacksonville, Fla. — first in day care and now as a kindergartner at Barnett's on-site elementary school. The bank also has a company-funded before- and after-school program for the children of its 5,000 employees.

"It is one of the driving forces that has kept me here," says Vicki Petrey, Kayla's mother and a security systems analyst at Barnet Technologies, Inc.

Petrey's daughter is one of about 150 students attending the elementary school, which includes kindergarten through third grade. A satellite of the Duval County school system, the school is financed by Barnett and the county school board. Barnett maintains the facility, and the school board provides the teachers and books.

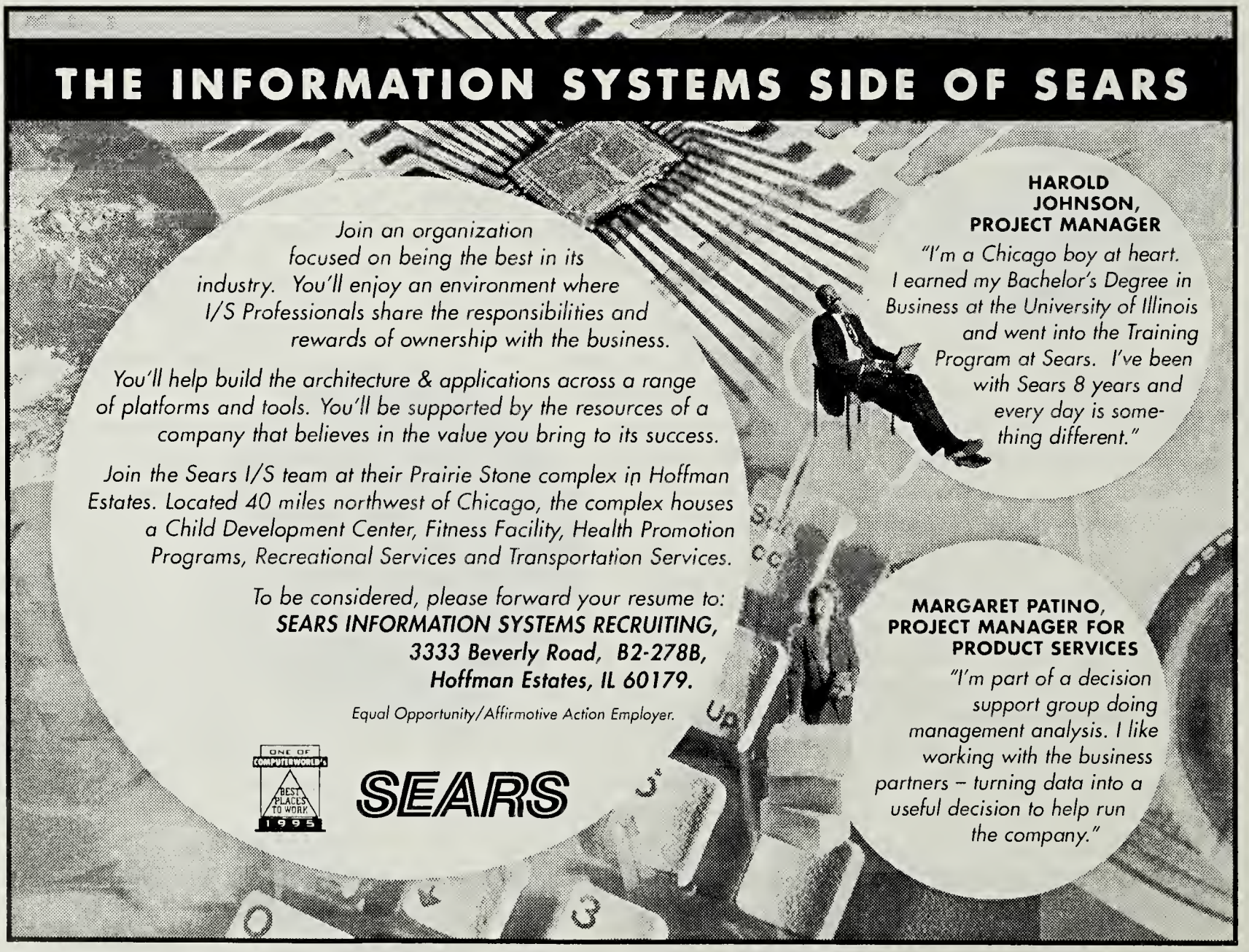
Students at the school benefit from the expertise of parents like Petrey. She helped set up an E-mail system to establish communication between the school and the bank. Other IS employees installed and set up PCs that their department donated to the school. Parents in the PTA, which Barnett created two years ago, contribute by donating software packages for these systems.

Working in IS, Petrey is usually on call for IS emergencies 24 hours a day, which allows her the freedom to visit her daughter during working hours.

"Any time she has any kind of school activity, I can attend. I'm within walking distance. It takes 30 minutes out of my day. If I had to take her to a regular public school, I would have to drive an hour," Petrey says.

Walk in my shoes: Southwest Airlines

If you want to be someone else for a day, Southwest Airlines Co. will encourage you to try it. Once a year, the company sponsors a walk-a-mile day, during which employees in various departments within the company get to



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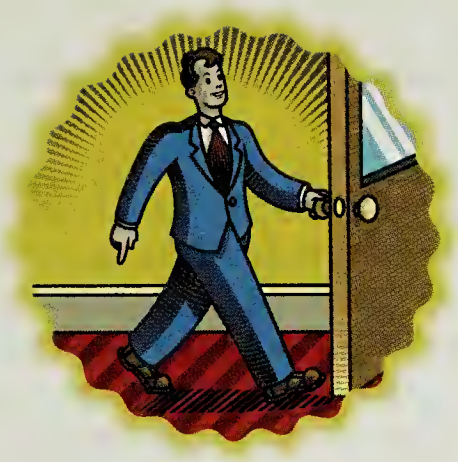

experience firsthand what day-to-day activities keep their co-workers busy. Southwest's goal: to increase respect among fellow workers while promoting company awareness.

It's also a good way to find out what works and what doesn't and where changes need to be made.

A case in point: Early in his career at Southwest in Dallas, Ken Rundas, director of the solutions and systems department, encountered a walk-a-mile day employee from the ticket counter at a systems department meeting. The ticket-counter employee made some good suggestions for improving the end process at ticket stations, giving IS staff the end-user perspective.

"People are really anxious to hear other ideas, regardless of what level of the organization they come from," Rundas says.

Act the part: Price Waterhouse

Consulting is a pretty serious business. That's why Price Waterhouse tries to inject some lighthearted fun into their training course for entry-level consultants by including some elaborate role-playing.

And what better way to do that than have instructors act and dress the parts of clients? Wearing funny hats and outlandish ties, the consultants create distinctive personalities, both agreeable and difficult. "It gives the young consultants an opportunity to get a feel for the kind of issues that come up during a client's engagement and how to deal with them," says Fran Engoron, a senior partner of intellectual capital at the New York-based Big Six company.

To prepare for the role-playing, consultants receive case studies outlining the client's issues. After some study and preparation, the consultants try role-playing. Then they discuss what they learned with the instructors.

"I think it is a good educational experience, and it's also fun for the consultants," Engoron says.

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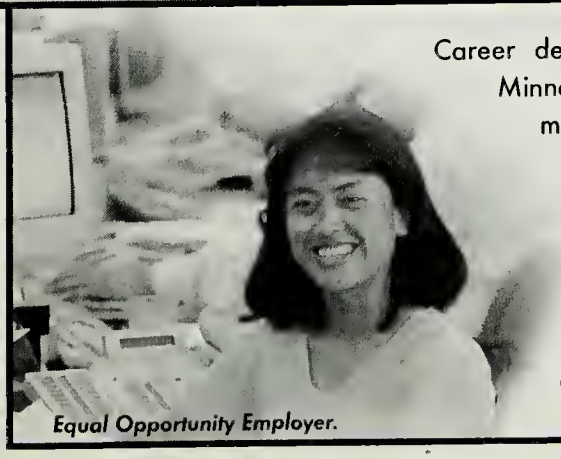

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On the Job

Barnett Technologies

Banks, banks and more banks have been in Jerry Maher's IS career for 25 years.

But he says being director of information technology at Barnett Technologies, Inc. is the best job he's ever had. Maher heads a crew of more than 800 people at the Jacksonville, Fla., subsidiary of Barnett Banks, a 600-branch bank with 18,000 employees.

What draws Maher professionally is the challenge. He works with high-speed imaging and is using object-oriented tools to build new systems.

Clyde Jennings, director of asset systems and one of Maher's direct reports, says his boss fosters challenge by being open-minded and putting aside his own technology biases.

Jerry Maher

"Everyone feels free to bring new tools into the company — software development tools, testing tools, database management tools — they're all welcome, and if they work out, they'll be adopted."

That openness to new technologies is backed by training. "Within IS, 200 people a year are trained in object-oriented development. We also train people in Unix, client/server applications and a myriad of decision-support tools," Maher says.

"We have developed a dozen certified network analysts, a certification that requires a minimum of 1,000 hours of training and doesn't hurt anyone's resume one bit," he adds.

Even though Barnett employees are prime targets for other employers in the area, annual turnover at Barnett Technologies is less than 9%.

— Kay Carstens

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The Diversity Gap

While the Best Places to Work employ more women and minorities than their peers, there's room for improvement in management ranks

BY ROSEMARY CAFASSO

Most executives agree that diversity is a corporate asset. But the higher up the ladder you go, the more rarified the air seems to get.

The trend is even evident among *Computerworld*'s 100 Best Places to Work, which are selected in part based on their progressive approach to diversity. IS organizations of this year's Best Places to Work average 37% women and 19% minorities.

Their management teams, however, are made up of 30% women and 15% minorities.

While *Computerworld*'s Best Places are among the most progressive of the IS organizations surveyed, they still lag the economy at large. For businesses in aggregate, women make up 46% of the workforce and minorities 21%, according to the U.S. Department of Labor's 1990 census. Overall, women and minorities in management positions account for 43% and 21%, respectively.

IS professionals and industry consultants differ when it comes to explaining the management drop-off, with some observers suggesting the ratios will even out over time and others warning of the threat of "institutional racism." But they all agree that organizations in general can do more to ensure that diversity is maintained up and down the IS ladder.

Some are doing more than others. Take the U.S. Department of Housing and Urban Development, where the IS management team is made up of 44% women and 42% minorities. Steven Yohai, director of information technology, who is Hispanic, says he benefited from the progressive environment at HUD.

HUD managers Steven Yohai and Harriet Antiporowich both say they've benefited from federal hiring policies.

When Yohai joined the agency nine years ago, he says, the IS team was not a diverse group. But the IS director at the time was committed to turning things around. Over the years, the director and other managers, including Yohai, made a point of encouraging women and minorities to apply for available jobs.

"We did take steps," Yohai says. "On a mentoring level, I would tell [women and minorities] where there would be some openings." This encouragement was enough of a nudge to convince them to apply for the jobs, he says. One benefactor of those early efforts is Harriet Antiporowich, a six-year HUD employee. She started out on the user side at HUD as an administrator in the agency's office of management and productivity and is now director of computer services.

"I feel that when and if I am interested in moving to the senior executive level, the door is wide open," Antiporowich says. "I have always felt that being a woman was never a factor in how I was treated."

Knowing that upward mobility is possible boosts morale and acts as a strong motivator. Just ask Kay Marsh, manager of desktop integration at National Semiconductor Corp. Marsh says she left another company six years ago because it was biased against

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PHOTOGRAPHY BY KATHERINE LAMBERT

Continued from page 35

women and routinely gave jobs to qualified men ahead of qualified women.

The atmosphere at National Semiconductor is quite the opposite. "It definitely raises morale," she says. "The opportunities are here; all you have to do is try. I am not given special privileges. I want to be here because I've earned it."

Black Data Processing Association's George Williams: Recruiting minorities 'is not a onetime effort.'

Business benefits

In addition to morale, there are business benefits to a more diverse workforce. For instance, an IS group composed of a broad mix of people will more accurately reflect its own customer base and will understand their needs more accurately. And if global expansion or offshore contracting is in the cards, diversity is an added benefit.

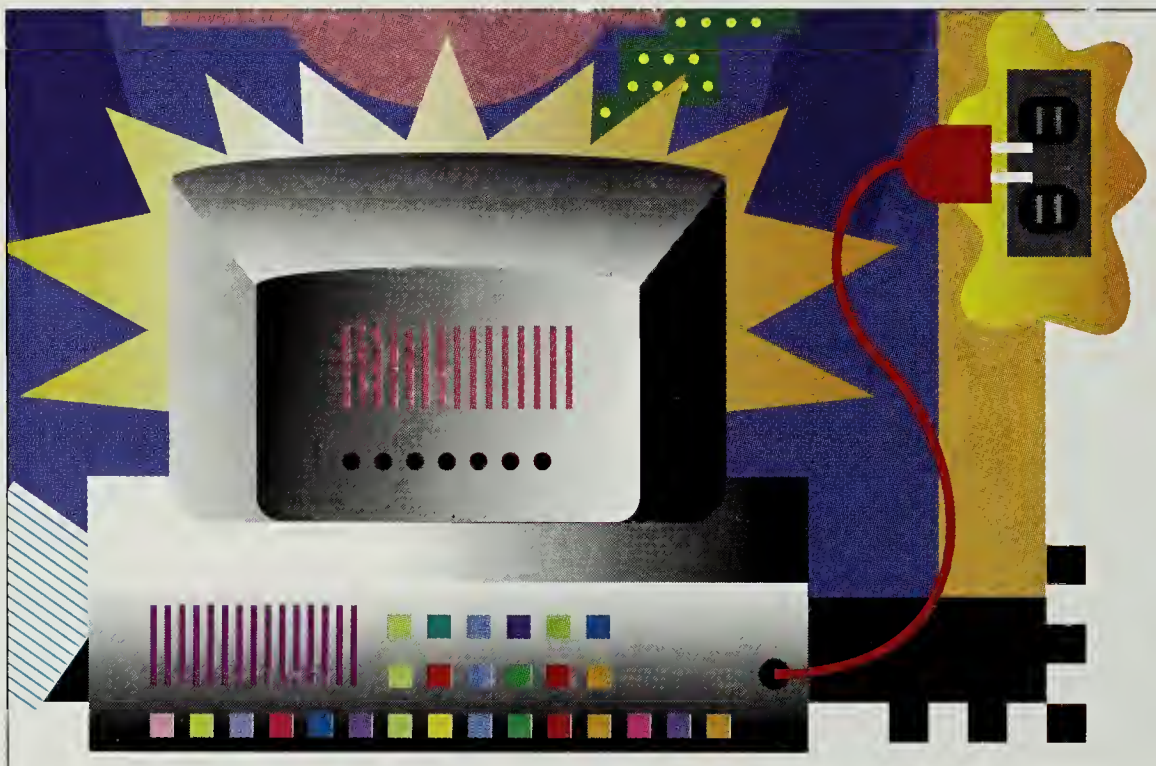
Take Fluor Corp., for example, the international engineering and construction firm based in Irvine, Calif. Ray Figueras, an IS director in charge of administrative systems who was born in the Philippines, was tapped to negotiate an offshore programming contract in his native country.

Figueras says that he can more effectively negotiate with Filipino programming contractors, because he is in touch with the culture. "Americans

The Diversity Dividends

IS organizations can reap big benefits from a diverse workforce:

- **Ability to connect and relate to diverse customer base.** IS execs say it makes good business sense to have a workforce that reflects the global market and can more easily communicate and do business in many locations.
- **More effective teamwork.** Teams will more often come up with better project ideas because more viewpoints are brought to the table.
- **Improved morale.** A truly diverse staff helps create an atmosphere where employees believe there is fairness and opportunity.
- **Increased productivity.** Individuals are judged by what they accomplish, not who they are.



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have a way that is direct, to the point, the bottom line, just do it," says Figueras. "Other countries are not used to that. They rely on friendship [and] establishing relationships first before getting to the business at hand."

In addition, many Best Places to Work find that a diverse workforce fosters more effective teamwork, IS executives say. With a broader mix of people, teams will more often come up with better project ideas and plans because more viewpoints are brought to the table.

"If you are not all from a cookie cutter, you will approach things differently," says Donna Triolo, vice president of the application development group at The Equitable Life Assurance Co. in New York. "The way men and women think can be very different."

Yet despite the benefits, many IS executives say the diversity issue will remain an ongoing struggle. In some cases, despite very deliberate efforts to seek out women or minority candidates for top jobs, the pool of available candidates is limited.

Equitable Life Assurance's Donna Triolo: 'The way men and women think can be very different.'

Last year, when Randy Allen, chief administrative and information officer at Phillips-Van Heusen Corp. in New York, needed to replace one of her direct reports, she searched for men, women and minority candidates. Allen pursued one black colleague in particular because she knew he was well qualified for the job. But she was unable to offer him a better deal than the position he already had. "I just couldn't get him," Allen says. Her group of six direct reports now consists of three men and three women, but no minorities.

In another case, Ollie Morgan, a former national president of the Black Data Processing Association and now an independent consultant based in Chicago, was contacted recently by a chief information officer to help him find a minority candidate to take over his position.

"He was looking to pass the baton," Morgan says, "but there was no one within reach."

Regardless of the difficulties in recruiting minorities, IS executives need to do a better job of creating manage-

Continued on page 39

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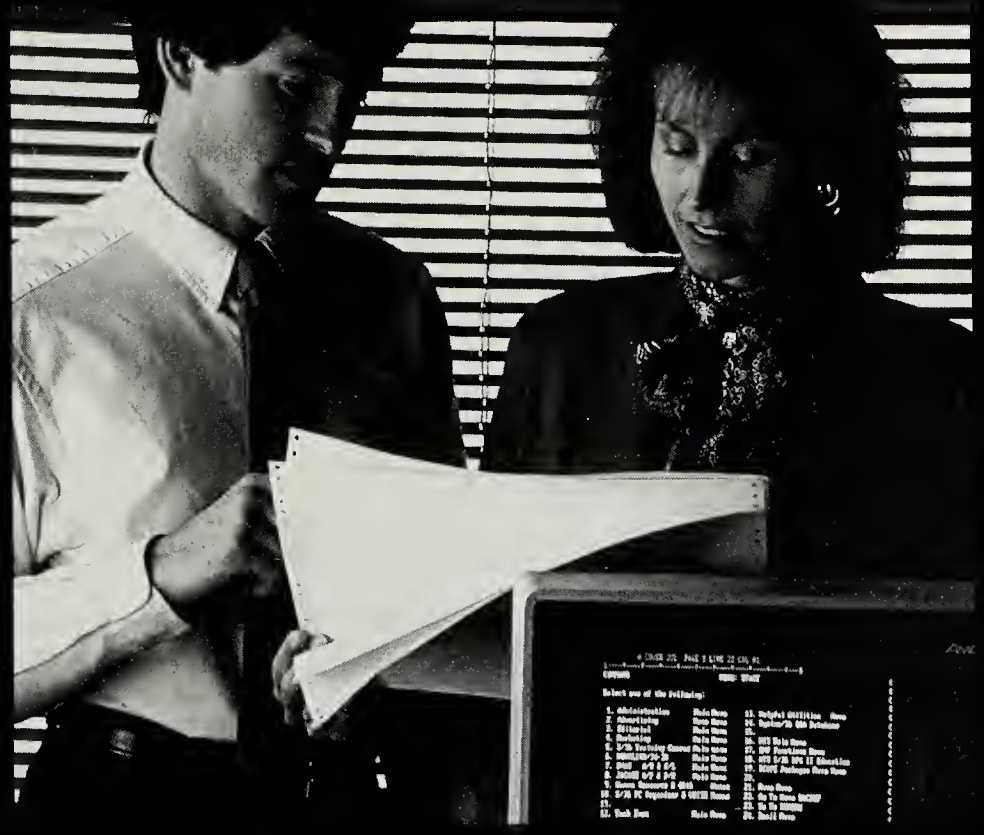

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Room at the Top

When Randy Allen got her start as a programmer at IBM in 1968, she was put on a team with two men to write some manufacturing software. As it turned out, the team could get computer time only on the overnight shift.

Allen claims that IBM was so worried at the prospect of a single woman working alone at night with two men that it hired another woman to even out the team.

These days, Allen could certainly choose her own shifts and work partners. After working at IBM, she spent several years as a partner with Deloitte & Touche and is now chief administrative and information officer at Phillips-Van Heusen Corp. in New York.

Allen says that many IS organizations have made progress in leveling the playing field for men and women. Yet, she says that all IS professionals need to stay in touch with diversity issues and watch for the subtle, yet often unintentional, slights against women and minorities.

Phillips-Van Heusen's Randy Allen: 'There's still progress to be made.'

Allen recalls an instance at another company prior to her joining Phillips-Van Heusen. Before Allen could apply for an available job, a male friend and colleague told a superior that Allen wouldn't be interested in the job because she was a single mother and the travel requirement would be too demanding. Allen believes her colleague was truly trying to help her, although she does say he "may have been less apt to" provide such help if she had been a man.

"There's still progress to be made," Allen says. "There is a glass ceiling, but we are a far cry from where we were in 1968."

— Rosemary Cafasso

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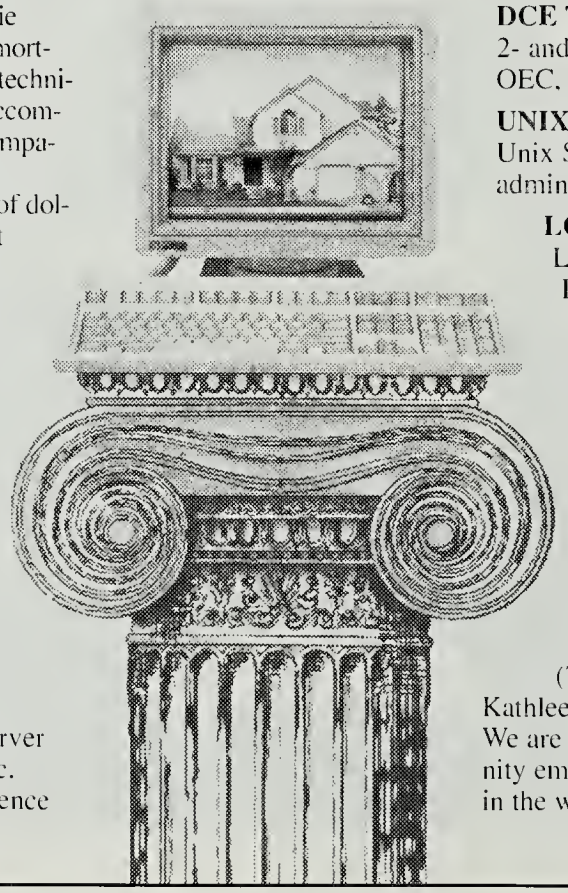

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Continued from page 37

ment teams that more accurately reflect their workforces, industry consultants say.

"Companies have to make a conscious effort, because it could be very, very easy to just say, 'African Americans aren't responding to our ads,' " says George Williams, current national president of the Black Data Processing Association, headquartered in Washington, D.C. "It is not a onetime effort. It is ongoing," he adds.

> **"You have to do targeted, focused recruiting, and we have to work with sources to make sure the pipeline is wide open."**
>
> **— Paul LeFort, Chief information officer, United HealthCare Corp.**

Linda Cooper, president of LGC & Associates, Inc., a management consulting firm in Kansas City, Mo., specializing in diversity counseling, suggests that top management find new criteria to evaluate candidates, including non-IS work experience and life experiences that may demonstrate leadership skills. Such a strategy would open management opportunities to a wider group of IS professionals.

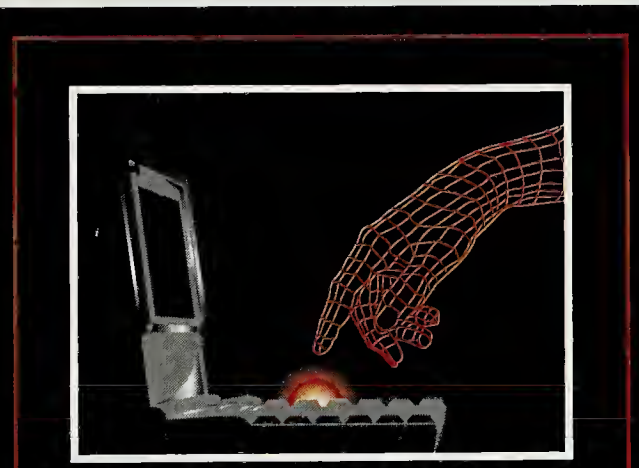
"Because people of color were behind the eight ball in having entered the [work] environment, it could take significant time for them to get to senior management level," Cooper says. "There could be steps taken to accelerate the process."

Other observers suggest that while IS executives talk about diversity, they don't follow through with action. "My impression is that very little [of substance] is happening," says Jay Gaines, president of Jay Gaines & Co., an IS executive recruitment firm in New York. Gaines, a 15-year veteran of the recruitment business, is not a diversity expert, but he points out that for every 10 IS executives he places, about six will be white males, two or three will be women and the remainder will be either Asian or Indian males.

"I believe [there is a diversity gap] because the pipeline of females and minorities coming up the ranks is not what it should be," Gaines adds. "There is such a short-term emphasis — let's hire a diversity candidate — instead of ensuring it."

Many IS executives echo Gaines' long-term advice. "You have to do targeted, focused recruiting, and we have to work with sources to make sure the pipeline is wide open," says Paul LeFort, CIO at United HealthCare Corp. in Minneapolis. "It means recruiting in wider areas. That's part of our strategy this year."

CAFASSO IS A FREELANCE WRITER BASED IN WALPOLE, MASS.



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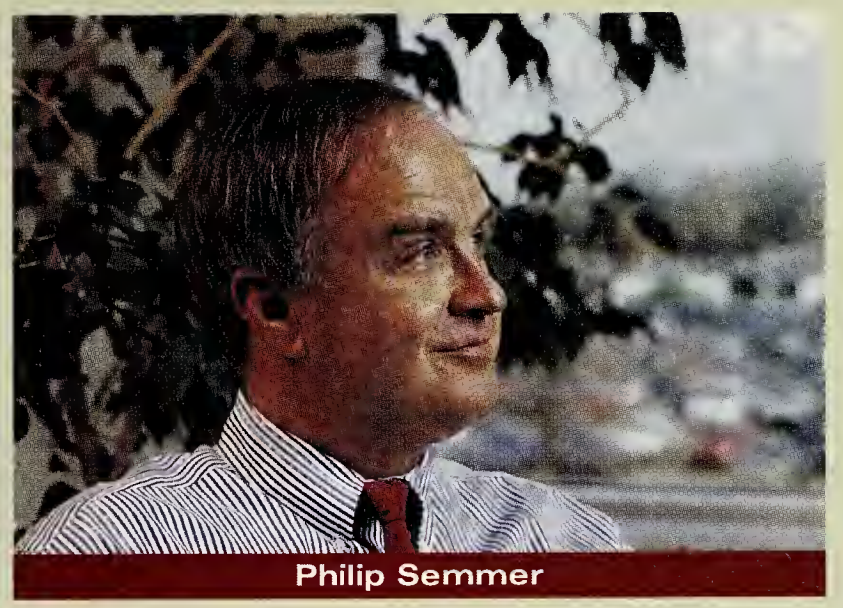
Philip Semmer

Several years ago, Philip Semmer, then vice president of financial operations, was asked to put his money where his mouth was when it came to supporting General Mills, Inc.'s shift to SAP AG transaction-processing technology.

The reason: The CIO whom Semmer was working with on the SAP conversion was promoted halfway through the project. Semmer, who has been at General Mills for 17 years, accepted the issue in October 1993. Soon after, Semmer decided to decentralize the IS department's structure and transferred approximately 40% of the 250-person staff to the company's various operating units.

Linda Krueger, senior systems business analyst, was a transferee. She says working shoulder-to-shoulder with the users she supports is allowing her to align her IS objectives much more closely with theirs. "As a project manager [in the centralized environment], I felt like I was saying 'no' all the time," she says. "There was a real sense of us (IS professionals) and them (users). Now we do what is needed to get the job done together."

Another positive side effect: "I have much more credibility in this decentralized environment," Kreuger says.

Semmer stresses the importance of communication, as well as employee development. Each IS employee has an individual development plan that includes short-term training goals and long-term career objectives. Individual IS training budgets average about $2,500 a year.

— Candee Wilde

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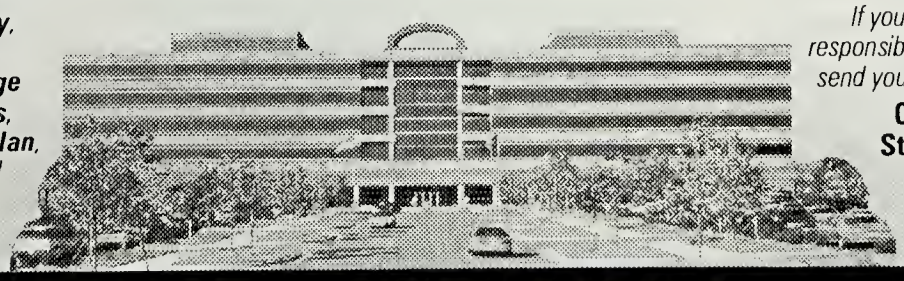

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Training *for the* New Millennium

With constant and rapid change a staple of life, it takes a new attitude toward learning to prepare IS staff for the future

BY DAVID WELDON

Ask Robert Heinaman how many information systems trainers he has on staff at Owens Corning and he doesn't hesitate for a second. "We don't have any," he says.

He's kidding, right? As the director of resources development at a company with 17,000 employees, serving 11 business units at 105 manufacturing sites in 30 countries, shouldn't Heinaman have internal IS trainers by the truckload?

Well, he does, actually, and then some. But they prefer to think of themselves as Owens Corning *employees.*

"We don't keep IS trainers on staff. We expect our people, as they grow, to turn around and teach others," Heinaman says.

Owens Corning isn't alone. Other companies are adopting this learn-to-help-ourselves attitude when it comes to training in the latest technologies and business processes. The reason is simple: rapid change.

Along with changes in attitudes and technologies, companies are changing how their training budgets are spent. On the decrease: full-time IS staff trainers and broad-based staff training. On the increase: short-term third-

Good communication skills are vital. In this new environment, IS employees "have to become trainers, teachers, coaches and spiritual guides," says Owens Corning's Michael Radcliff.

ILLUSTRATION BY ARNOLD ROTH

party trainers, training on a project basis only and training new-technology "champions" picked as much for their business and communications skills as their technology prowess.

"The focus is on learning, rather than training. Learning occurs on a new assignment, and you learn more by doing," Heinaman says. "We look at our training role as providing information the employee needs to use on the job. Teaching how to use a process, rather than a tool, is key."

For IS professionals concerned about career development, the implications are many. On the technology side, companies will invest heavily in the training that employees need, but this will be based on the projects to which they are assigned.

Getting on those projects in the first place means mastering business and "soft" skills, which include facilitation training, conflict resolution and team building.

These project teams include business users, who may be just as uncomfortable working in this environment. It's a new role for both sides, and success depends on open communication.

Ultimately, "it's not the skills in technology that make IS professionals successful," says Michael Radcliff, vice president and chief information officer at Owens Corning. "It's the attitude, 'How do I give value to my business, to my customers?' "

Make way for change

It's critical that Owens Corning employees get this attitude right because the company is in transition. The mainframe systems are being scrapped, and the IS department is halfway through a 100-week move to a new client/server platform. On top of that, Owens Corning is re-engineering all business functions around SAP AG's enterprise client/server software.

Corning has had to completely re-create IS, and all employees had to be retrained in new processes and new technologies.

"It is a massive amount of training to absorb," Radcliff says. And the key to success ultimately will lie with the ability of employees to help each other through the process. "We've had to learn a lot of new things quickly, to make a lot of mistakes quickly and to become competent in a short amount of time," Radcliff says.

Despite the new technologies that must be mastered, outside trainers are being brought in only for initial training. Their role is to "jump start" each process, Heinaman says. The outside trainers work with selected "champions," who can master both technology and business issues quickly. Once comfortable with a new technology, the champions take over the job of training others, who, in turn, help train others.

In this new environment, good communication skills are vital. IS employees "have to become trainers, teachers, coaches, spiritual guides," Radcliff says. And along the way, managers have to learn trust.

Balanced training

With trust comes responsibility. Employees and managers at Farmland Industries, Inc. in Kansas City, Mo., are learning this lesson firsthand, as they work in partnership to determine individual training.

And there's a lot of training going on at Farmland. The company is six months into a four-year project to completely re-engineer all business processes around SAP. Seven companies essentially are being merged into one. And 25 of the most experienced IS staff have been selected to learn the industry's hottest skill.

When they're through, says John Eller, director of IS planning, these employees can pretty much write their own career tickets. But they weren't picked just for their technology prowess.

"When we first started the SAP project, the Ernst & Young consultants were surprised to notice that the members already had the soft skills needed," Eller says.

These included a consistent record of getting work done on time, a quickness to learn and an ability to under-

Continued on page 44

Training for Trainers

Fran Engoron bears witness to the increased need for third-party trainers in new technologies.

As a partner in charge of human resources at Price Waterhouse, Engoron has seen the company's consultant roles nearly double in the past two years. Up-to-date training is a survival issue for Price Waterhouse staff. After all, these people have to be instant experts on each new technology that comes along. It's no surprise then that nearly all of Price Waterhouse's staff is trained in SAP AG's R/3 system.

To make sure its employees are acquiring the right new skills, Price Waterhouse annually evaluates each employee's skills against market demands. "We want to make sure that where they are investing in training is where the market needs are," Engoron says.

But even Engoron admits it's tough to keep up. And it will get tougher, as the number of companies migrating to client/server systems, adopting object-oriented technologies or re-engineering around SAP increases.

And there's another big change. "We're seeing clients demand that consultants have a good understanding of their business processes and their industries as well," Engoron says. "This is an increase in the expectations of what our consultants provide."

Training for IS trainers at Price Waterhouse, therefore, has a large focus on business issues. "Our employees are very sensitive to building their own set of marketable skills," Engoron adds. "We're going to be more successful in retaining them if they feel we are addressing those needs."

— David Weldon

Continued from page 43

stand the business issues.

It wasn't coincidence. Farmland already was involved in a large amount of joint-application development, and communications skills were becoming a large focus of IS training. "Facilitation is an important skill for IS people to have," Eller says. "The ability to work in a true team environment, to be expected to work and be measured in a team, is critical."

But Farmland expects IS employees to take some of the initiative, as well as managers.

"A big part of our performance methodology is career development planning," Eller says. The company provides a variety of training on internal technology, soft skills and productivity. Employees are expected to develop their skills in those areas, and managers are expected to ensure a well-balanced training diet.

Such a training diet is high on the priority list at The Home Depot, Inc., in Atlanta.

Upping the Ante

Training is getting a larger percentage of the IS budget

Source: 1996 report on User Needs and Requirements for IT Training by International Data Corp., Framingham, Mass.

Home Depot IS employees spend an average of 11 to 12 days in formal training each year. And the company has an IS training budget of $6,500 per person, more than three times the average for the 100 Best Places to Work. But project training is at the heart of the company's training efforts.

"Employees are barraged with training as they go from project to project," says chief information officer Ron Griffin. Technology training is built into each new project. Home Depot provides whatever technology skills might be needed.

Before any IS project gets under way, IS employees are assigned to work briefly in the business unit. This helps them understand the business issues at hand and get to know their new business partners.

"We have a very strong culture that we try to reinforce at every turn," Griffin says. This means providing training in relationship building, communication skills, leadership, the ability and willingness to speak up and flexibility.

Griffin says this approach to training is new ground for many companies and many employees. "This is a journey; it's not a destination. It's hard to quantify, other than how you see people working together," Griffin says.

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The IS professionals who will be successful long-term will be those who can learn and assimilate things quickly, he says. And after mastering the soft skills, "you can adapt more easily to whatever does happen," Griffin says.

Learning to work well with others – quickly – is vital at Maytag Corp. in Newton, Iowa. Teamwork is this company's motto. And with the IS department in the midst of major hiring, new employees will find that training in team building is among the first items of business.

The 100 Best Places to Work provide an average of nine days of training to their IS employees.

They'll need it. The company is centralizing several autonomous business units, IS included. "Many people will be assuming responsibilities they never had before," says Donald Scott, corporate IS staff specialist for business systems. They'll also have new business partners. This likely will mean an increase in internal IS training on core business strategies, Scott says. But the constant change in technologies will force the company increasingly to go outside for that training.

"The greatest need for training will be more and more emphasis on the team-building part," Scott says. "The IS department is full of techies who flourish in the technology but are very much individuals. We need to think more like a business. We need to communicate better with our business users to understand their needs."

In tune with business

Understanding the needs of business is the cornerstone of IS training at Mellon Bank Corp. in Pittsburgh. And fortunately, many IS professionals are finding this new work and training environment very much to their liking.

When Mellon Bank set out to completely replace its internal networks last year, the first step was for IS professionals to work closely with their business partners. Before tackling any new systems design, IS employees found themselves training for days in customer service or loan application processes.

The impact: "This line training has helped them understand the business issues," says Marty Lippert, vice president of information management. "It makes them more in tune to a total systems approach, rather than just an individual technology approach."

Easier said than done, however. "Implementing that type of training has been the most difficult part of it," Lippert says. "Getting the commitment of all groups takes time." And the project

Continued on page 46

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Continued from page 45

pace was intense. But IS team members emerged "charged," Lippert says. "You expect a team to come out of the experience exhausted, and they came out exhilarated."

And why not? The project came in ahead of schedule and under budget. IS team members were learning some pretty hot skills, not to mention the business. And they learned to be IS trainers in the process, now passing along those new skills to their peers.

This new meld of IS employee/trainer is critical for Mellon Bank, Lippert says. Because of a skills shortage in the Pittsburgh job market, Lippert must develop skills in-house, which means spending more on outside training, first to acquire new skills, then to quickly develop widescale expertise within the company.

Turning to Outsiders

IS training now tops the list of targeted outsourcing activities

	1996	1995
1. Training and end-user support	**43%**	**40%**
2. Disaster recovery	**39%**	**37%**
3. PC procurement and maintenance	**38%**	**49%**
4. Application development	**37%**	**40%**

Source: 1996 survey on Critical Issues of IS Management by Computer Sciences Corp., El Segundo, Calif.

"The way we're reacting is to take people who have had good track records and put them through intensive training. We get them certified, and then we bring them back internally to teach the others," Lippert says.

The key words here are "good track record." For some, it means a strong technical skills portfolio. For others, it means successful work on previous projects. For still others, it means showing initiative in seeking out their own skills development.

Mellon Bank expects IS employees to plot their own career growth. The IS department has a skills-inventory database of all 1,400 employees. Every job function in the department is clearly defined according to skills and education needed. And every logical career step from each position is outlined. To prepare for the next career step, the employee is expected to seek out training.

"It really paints a very definite career path for them – what courses, what education, what training they need. It puts the responsibility on them to know what it takes to succeed," Lippert says.

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On the Job

Southwest Airlines

Visionary. Coach. Mentor. These are the words Southwest Airlines Co. IS staffers use to describe the management style of Bob Rapp, vice president of systems.

"He'll leave every opportunity, even though it sometimes may be more difficult in the short term, for people to develop through a situation by doing it on their own with him coaching from the sideline," explains Ken Rundas, director of solutions and systems.

Ken Rundas

Rapp "is a very good visionary," says Nancy Harris, manager of customer computing services. "He allows you to take that vision and determine the best way to implement it."

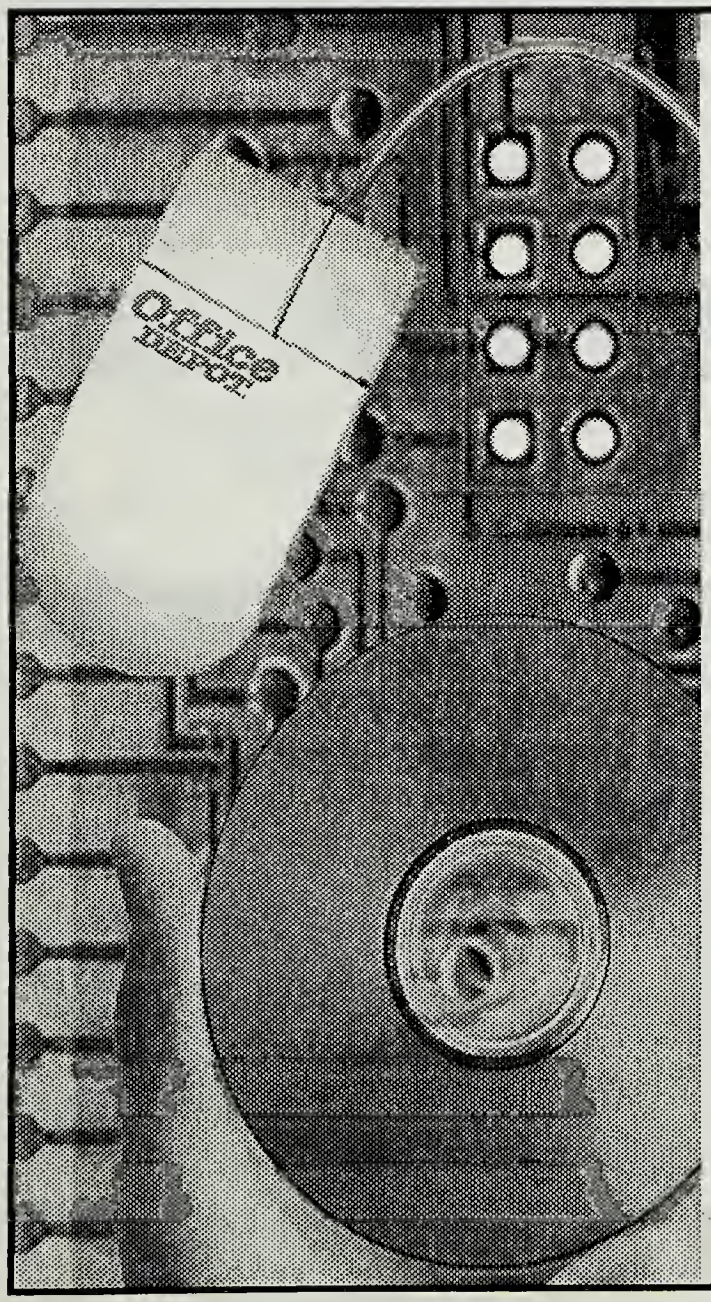
Getting adequate training to carry through on a vision is not a problem for IS employees at Southwest. For instance, Rundas and Rapp started a training session titled Level Setting in Client/Server Systems Development, which is structured to take the IS department to the next level in the company's technical development. IS management brought in an instuctor from an outside training firm to teach the course.

Informal get-togethers also play a staff-development role in Rapp's department. At quarterly departmental luncheons, employees get a chance to get to know new IS employees in a relaxed setting.

Rapp asks each new hire a question from a list of 20. Typical questions: What was the last movie you saw? Why did you choose to work at Southwest? And what was your most embarrassing moment?

Most important to Rundas, however, is that Rapp is accessible on a one-to-one basis. The leadership Rapp and other company executives provide "is a service in the organization, as opposed to egotistical," Rundas says.

— Amy Malloy



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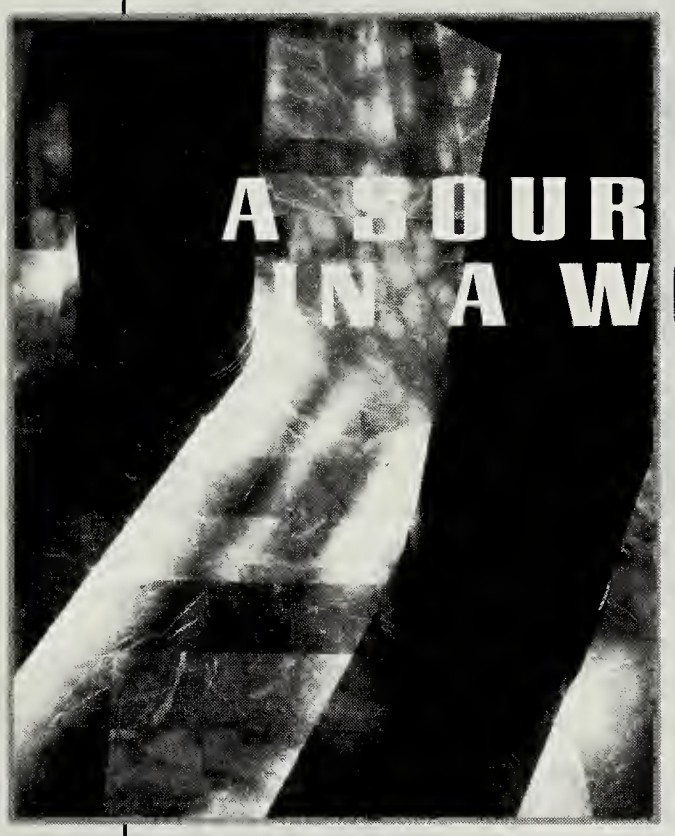

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DEPARTMENTAL MANAGEMENT

51. Sales & Mktg. Management
70. Medical, Legal, Accounting Mgt.

OTHER PROFESSIONAL MANAGEMENT

80. Information Centers/Libraries, Educators, Journalists, Students
90. Other Titled Personnel

3. Do you use, evaluate, specify, recommend, purchase (Circle all that apply):

Operating Systems

(a) Solaris (e) Mac OS
(b) Netware (f) Windows NT
(c) OS/2 (g) Windows
(d) Unix (h) NeXTstep

App. Development Products Yes No
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University of Notre Dame's Larry Rapagnani, assistant provost for IT (left), and Scott Siler, manager of student computing support, benefit from diverse responsibilities and a community lifestyle.

Get a Life on CAMPUS

The fun doesn't have to end after college. This year's Best Places to Work list includes nine universities that prove why.

BY LINDA WILSON

David Thiele graduated from the University of Wisconsin at Stevens Point in 1983 but never left campus.

Armed with a degree in business administration with an emphasis in information systems, he got a job working on a mainframe-based student registration system. Over the years, he's moved up; now, he's the assistant director of administrative information systems.

"There are a lot of things I like about being here," Thiele says. "The community is nice in central Wisconsin. The technology environment is challenging. There's diversity — I am not pigeonholed into doing just one thing." He supervises five people who design and maintain administrative systems dealing with student data — such as financial aid, registration or admissions — but he's still involved in programming, system troubleshooting and working with users.

Thiele is not alone. Lots of people join the staff of a university IS shop, decide they like it and never leave. Their longevity on the job is one

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PHOTOGRAPHY BY MICHAEL ABRAMSON

Continued from page 49

clear indication that universities are good places to work.

There are a number of reasons the university IS shop is a good place to stay and build a career. The technology environment tends to be current, employees have broad responsibilities and a lot of freedom to make decisions, continuing education is supported and layoffs are rare.

No wonder nine university IS shops made it into *Computerworld*'s 1996 list of the 100 Best Places to Work. University of Wisconsin at Stevens Point, where Thiele works, came in at number 14, while the University of Miami, the highest-ranked school for IS, garnered 12th place.

Other universities on the list include: University of California at Davis (40), North Dakota State University at Fargo (57), Kansas State University at Manhattan (61), University of Notre Dame (62), Bowling Green State University (64), Florida Atlantic University in Boca Raton (80) and University of Delaware at Newark (90).

Working at a university isn't perfect, of course. The biggest disadvantage is the salary structure, which tends to be lower than what is available in the corporate world. "There isn't a person on my staff who couldn't find a job for 20% or up to 100% more than they are making here, but other things are keeping them where they are," explains Jack Hall, director of computing services at Florida Atlantic University.

Technology smart

One reason Dan Grim stays at the University of Delaware is because of the technology environment. "There is no problem whatsoever in getting the resources to do things right," says Grim, director of network and system services.

A shining example of that commitment to technology, Grim says, is a project to connect every office, dorm room and classroom to a fiber back-

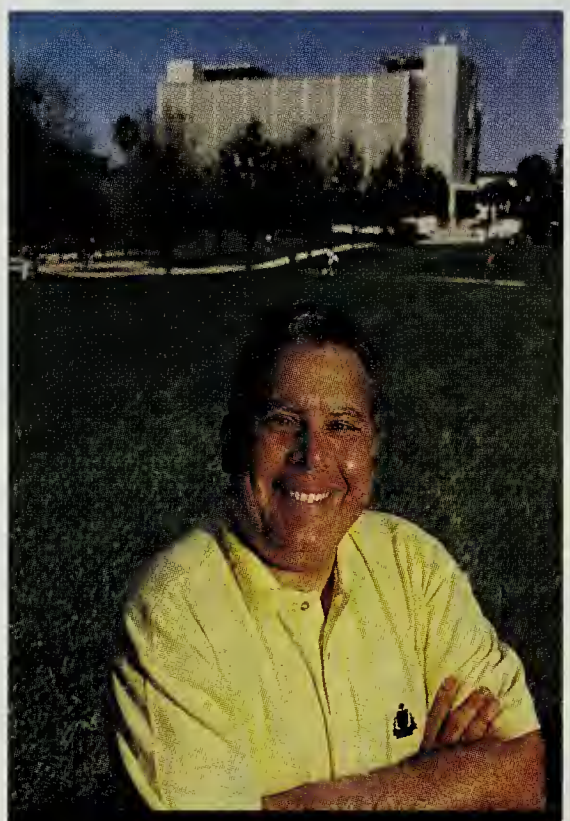
Continued on page 53

Head of the Class

Dan Thomas' 17-year information-technology career at the University of Miami has been anything but traditional. After getting into the field by chance, he's learned most of his skills on the job, bouncing back and forth between information resources and user departments.

Thomas' career mobility exemplifies why so many people find the university setting a rewarding place to work. The University of Miami prides itself on allowing employees to craft career-development opportunities that make sense for them. That might mean moving between departments, moving up within a department, working toward a degree or taking continuing-education courses, says Lewis Temares, vice president and CIO at the university .

"It's nice because people don't have to leave the institution to better themselves," Thomas says.



University of Miami's Dan Thomas, assistant director of information resources, learned on the job.

Thomas, a Miami native, attended school in Philadelphia in the 1970s and earned an undergraduate degree in mathematics from La Salle University in 1972. He also earned and a graduate degree in secondary school sciences from Villanova University in 1977.

He returned to Miami to teach, but after two years he was laid off in a budget crunch. That's when he landed his first job at the University of Miami. The position was a temporary summer job, acting as a liaison between the fund-raising and information resources departments, which were jointly building the university's first major fund-raising system — a batch-oriented database of contributors.

By summer's end, Thomas was hired as a permanent data-management employee. After two years in that job, he spent another five years in traditional fund-raising roles, such as running the annual fund drive.

Thomas then moved into information resources as the project manager of development for the mainframe-based university relations system, which, like the earlier system, tracks graduates and friends of the university.

For the past three years, Thomas has been assistant director of information resources. He's responsible for online query systems, most of which are based on IBM's report writer, Application Systems, which reads data from an SQL-DS database running on the VMS operating system. He also manages a variety of application development projects and does training.

"It's a bizarre career because I have been moving back and forth," Thomas adds, "but I really like it here. I feel very much at home and valued."

— Linda Wilson

PHOTOGRAPHY BY RED MORGAN

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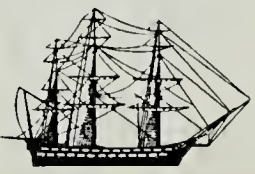

Continued from page 50

bone, allowing the easy delivery of both cable television and computing services.

"It started in the summer of 1993, and I thought, 'We will never get the money to do this,' " Grim says. But they did. The school spent $2.5 million to complete the project in 1993 and 1994.

Similarly, the technology environment at the University of Wisconsin at Stevens Point, which has been at the forefront of the client/server trend, appeals to Dave Dumke, director of administrative systems. "Over the years, we have had a strategic direction to open systems and distributed databases and client/server computing," Dumke says. The university, which has been running Unix and Oracle Corp.'s relational database management system since 1985, shut down its mainframe in 1988.

Another advantage of the university IS shop is the diversity of work. Because staffs at university IS shops tend to be smaller than what you'd find in the corporate world, employees are given diverse responsibilities and the freedom to meet them.

As the manager of student computing support for the University of Notre Dame, Scott Siler is in charge of both the student computer labs as well as a project to wire student dorm rooms. In this role, he oversees student employees who work in the computer labs as well as a working group of users and IS employees that's designing and planning implementation of the dorm network.

Dan Thomas, an assistant director in the information resources department at the University of Miami, likes the freedom to make decisions. "I have been given a lot of leeway to see needs and meet them," Thomas says. The value of that kind of freedom was driven home to Thomas three years ago. He was working on a small documentation project for human resources, when he realized the department would really benefit if it could access and sort data on employees without relying on programmers. That's because requests to send mailings to university employees must be funneled through human resources,

Continued on page 55

Top 5 Universities

1. University of Miami
2. University of Wisconsin at Stevens Point
3. University of California at Davis
4. North Dakota State University at Fargo
5. Kansas State University at Manhattan

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which approves the requests and sends out the mailings. The problem was an inefficient process in which information resources wrote a unique program for every set of labels, routinely leading to backlogs.

"What they needed was a generalized label writer so they could do their own selections," Thomas says.

Thomas proposed the idea, and it was approved. Using two tools from Computer Associates International, Inc. — Culprit, a report writer, and Roscoe, a line editor — Thomas built a series of screens that led users through the process. The program searches and sorts employees' names stored on a CA Integrated Database Management System.

"It makes you feel like a valued employee and that your opinions are important," Thomas says.

University IS employees are given ample training to make the most out of job freedom. Employees take courses not only to keep current in specific technologies but to work toward degrees as well. For example, about 20% of the IS budget at the University of Miami is spent on education and training, and employees log an average of 20-plus training days per year. "I don't know the last time I refused a training opportunity to someone who wrote a justification," says Lewis Temares, vice president and

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Dave Dumke finds the technology environment appealing at the University of Wisconsin at Stevens Point.

PHOTOGRAPHY BY MICHAEL ABRAMSON

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Continued from page 55

CIO at the university.

Another big advantage is job security. Although many state-run universities went through some financial stress in the late 1980s, in which some layoffs occurred, university staffs are generally very stable.

Take, for example, the University of Delaware. From 1989 to 1991, the university's IS department eliminated about 25 positions, primarily through attrition, but it did lay off seven people.

On average, universities have 37% less IS employee turnover than private companies.

One way the university's IS department fosters stability is through retraining. Ed Phillips, who is a number of classes shy of an undergraduate degree, is a beneficiary of that philosophy. He was hired in December 1988 as a computer operator but, because of his enthusiasm for computing, was moved into a brand-new career track to become a programmer through on-the-job training in November 1992. He moved from a junior systems programmer to his current position as an associate systems programmer in March. The next move on the ladder will be a position as a full-fledged systems programmer, which is the entry-level job for employees with college degrees.

"They gave me the opportunity to show what I could do," says Phillips. "I don't think employers in industry would have been willing to take that chance."

The move also has worked well for the university, which will need fewer and fewer people to work at the computer operations center as it becomes increasingly automated. "We were in a sticky situation. We didn't want to find ourselves in a position where we would have to let people go," says Grim, Phillips' boss.

Aside from the professional draws, the university setting offers social advantages as well. Says Larry Rapagnani, assistant provost for IT at University of Notre Dame, "We have anything and everything that is associated with a small-town community. We have our own cemetery, photo developing, child care, eating establishments, workout facilities, lakes and a swimming beach, dry cleaners, church and museum.

"It's a lot of things packaged together that says, 'This is different from the run-of-the-mill,' " Rapagnani says.

His peers at other university IS organizations would agree.

WILSON IS A FREELANCE WRITER BASED IN GLEN ELLYN, ILL.

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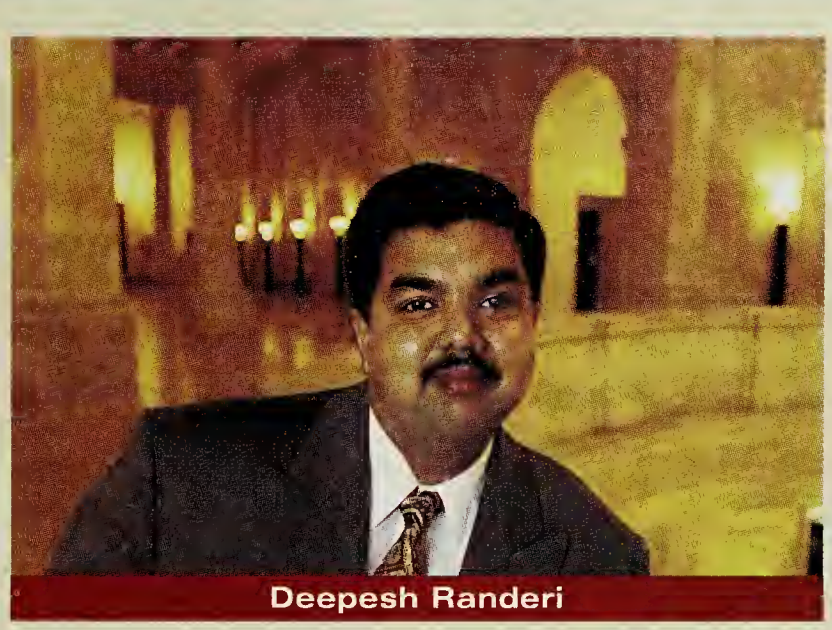
Deepesh Randeri

Deepesh Randeri has a boss worth working for. Terry Tallman serves his employees home-cooked meals; he skis and bowls with them and sponsors an employee recognition program with his own funds.

OK, so Tallman, manager of planning and control for the state of West Virginia's Information Systems and Communications Department of Administration, may not be preparing filet mignon. But the annual cookouts he and other executives host add a personal touch. "Terry Tallman believes all work and no fun makes Jack a dull boy, and this attitude has increased employee productivity," says Randeri, an information systems consultant in Tallman's department.

To recognize excellence on the job, Tallman also rewards employees with a plaque and theater tickets. "The prizes are not exorbitant, but they sure as heck serve as morale boosters," Randeri says.

Although Tallman keeps a busy schedule — he's in charge of the state's automation resource center, the end-user and internal support center and consulting services — he maintains an open-door policy. And he is always looking for ways to make sure his employees have adequate resources. If a brochure for courses passes across his desk, for example, Tallman will single out an employee and recommend a course appropriate for that individual.

"He believes in empowering his employees and encourages continuous improvement," Randeri says.

— Amy Malloy

PHOTOGRAPHY BY MARC BERLOW

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E/O/E

There are best places to work and

BY ROCHELLE GARNER

"We have a very strong culture, and when we recruit, we put a lot of attention on finding people who will enjoy that culture."
— Bob Walker, Vice president and CIO Hewlett-Packard

This past January, Hewlett-Packard Co. pleased Wall Street by announcing first-quarter revenue of $9.3 billion, with earnings per share of $1.50. Just another great quarter from the company that *Forbes* magazine deemed "the outstanding corporate performer of 1995." And while citing extraordinary financial milestones, like 26% sales growth, *Forbes* singled out HP for one particular reason: It achieved "superior profitability without massive layoffs and painful restructurings."

In other words, HP is a great place to work — a fact undisputed by its 105,000 employees, legions of management consultants, as well as books, articles and essays touting "the HP way." Ask anyone at HP if its attention to employee satisfaction has led to its financial success, and they will tell you, "Of course." "Doesn't it make sense that being a great place to work would benefit the company's finances?" asks Judy Miller, senior financial analyst for HP's information systems organization.

It would be nice to think so — that taking care of employees pays off and that abusing them comes back to haunt. But if there really is a connection, how is it that some successful companies are workplace horror shows while other more caring organizations are financial stumblebums?

That is the question now vexing analysts and business leaders. Which is why academics have been working at a seemingly feverish pace to produce more than 2,500 studies correlating financial returns with "high-performance work practices." Not familiar with the term? It's the new academic speak for an employment system that loosely encompasses such things as high wages, profit-sharing, an egalitarian workplace and a strong commitment to skills development. Clearly, these are the ingredients for a great place to work.

And according to one often-cited study, an increase in the use of these practices can increase a firm's market value by a stunning $18,614 per employee over five years. What's more, says Mark Huselid, assistant professor of human resource management at Rutgers University's School of Management and Labor Relations, in New Brunswick, N.J., companies switching to this employment system can reap 7% to 8% improvements in productivity, turnover and cash flow.

But there is a caveat. "People are confusing cause and effect, since job satisfaction is usually the artifact of working in a successful company, not the other way around," Huselid says. "It's clear that the relationship between job satisfaction and performance is at best moderate and generally tends to be close to zero. That's why the practical implementation of these findings is not to tell management to make employees happy, but to create employment practices that are likely to be effective."

Is there a CON

there are successful companies.

But what's effective? At HP, it's an egalitarian culture that aims to serve the individual's need for creativity, responsibility and freedom (see related story, page 63). In contrast, other effective companies have created cultures that, by turns, reward the iconclastic loner or the work-obsessed compulsive or the follower awed by authority. They work because they are communities of the like-minded.

"What makes a company successful is its ability to fit people into its employment lifestyle," says Quinn Spitzer, chairman and CEO of Kepner-Tregoe, Inc., a management consulting firm in Princeton, N.J. His point: A workplace that may seem glorious to one person could be hell to another.

"What most people miss when they are being recruited is there's a very narrow range of corporate cultures that they will do best in," says Bob Walker, HP's vice president and CIO. "We have a very strong culture, and when we recruit, we put a lot of attention on finding people who will enjoy that culture."

Love that job

It sounds great, but let's be honest: Many corporate cultures, no matter how "enjoyable," just don't encourage productivity. For that, employees need to be full-on engaged in the work at hand. They need motivation. The issue, then, is finding what turns employees into enthusiasts. Surprisingly, it's not the highest wages, the best benefits or even a monetary stake in the corporate pie. When it comes to compensation, say most management gurus, companies just need to be competitive. Where they need to raise the bar — especially where IS professionals are concerned — is by providing a compelling challenge.

Take Parker Hannifin Corp., headquartered in Cleveland, with 1995 revenues of $3.2 billion, up from $2.6 billion in 1994, and 1995 net income of $218 million, compared with $52 million in 1994. (Annual earnings per share leaped from 71 cents per share in fiscal 1994 to $2.96 in 1995.) There, the global maker of motion-control equipment keeps IS staff happy by way of juicy technologies including client/server, the latest and greatest CICS and executive information systems. And Parker Hannifin's IS staffers definitely appreciate the work. "I know we are on the leading edge here, because headhunters are constantly calling me," says Bob Griffin, senior program analyst. His last call? From a $10 billion IS consulting firm waving a big financial carrot, he says. Griffin turned it down. But it wasn't just for the bragging rights of working on nifty new projects. Griffin also cherishes the feeling of being valued by his business colleagues. "I don't feel that I'm looked upon as an overhead here," Griffin says. "I'm an asset."

The same holds true at Pepsico, Inc., which has watched its revenues steadily increase from $25 billion in 1993 to $28.5 billion in 1994 to

Continued on page 60

"There's no cut-and-dried connection between being a good place to work and productivity."

— Christopher Meyer, Ernst & Young Center for Business Innovation

NECTION?

ILLUSTRATIONS BY PETER SIS

Continued from page 59

$30 billion in 1995. Without question, Pepsico fits nicely in the category of "successful." And like Parker Hannifin, the pleasure of working at Pepsico comes, in great measure, from challenge. But in Pepsico's case, the challenge isn't always by way of the latest technology. Instead, David S. Kaufman, director of information systems at the Purchase, N.Y., beverage company, makes sure that no one in his 50-person IS shop gets stale at any one job. His method: Every two to three years, he rotates staff to a new tour of duty. One tour, it's general ledger; the next, it's the legal department.

"Job satisfaction is usually the artifact of working in a successful company, not the other way around."
— Mark Huselid, Rutgers University

"If you work in one area, regardless of whether you have new technology, you can get bored," says Kaufman, explaining his willingness to mix things up. "In the years since we put this in place, I've seen more eagerness to work harder — and it's not because their boss says they have a deadline. They are doing it for themselves." And like the staff at Parker Hannifin, Pepsico's IS team also reports feelings of greater worth, made tangible by their blending into the business units they serve.

The upshot? Enviably low turnover rates in both companies: Pepsico has less than 5% turnover; Parker Hannifin reports close to zero. Clearly, these are good places to work. But even more important, it's the twin dynamics of challenge and self-worth that, potentially more than any other factor, actually contribute to corporate finances.

"There's no cut-and-dried connection between being a good place to work and productivity, but the closest correlation is the idea of 'flow,' " says Christopher Meyer, director of Ernst & Young's Center for Business Innovation in Boston.

Meyer is referring to the work of Mihaly Csikszentmihalyi, whose 1991 book, *Flow: The Psychology of Optimal Experience*, describes a "state in which people are so involved in an activity that nothing else seems to matter. This is motivation at its most sought-after level."

"People are an order of magnitude more productive in this state, and getting there only happens when people are challenged enough to be energized and not so challenged as to be overwhelmed," Meyer explains. "If you could increase the time that people spend in a state of flow, you would do more for an organization's productivity than any other thing I can imagine."

Naturally, there's a catch: Companies

Continued on page 63

(please insert your cliché of choice here)

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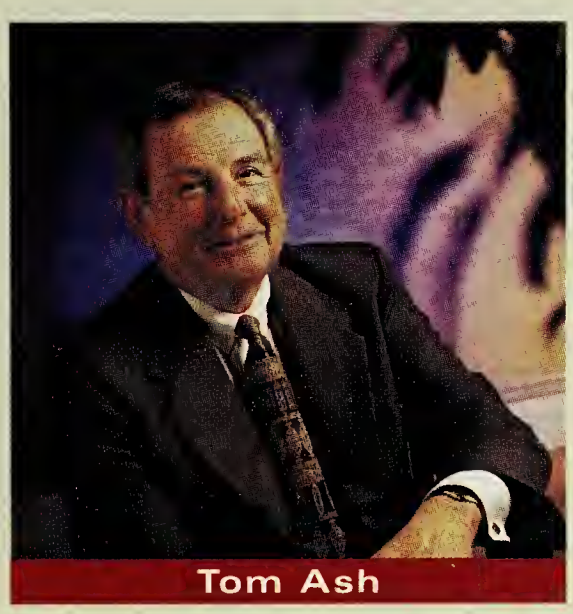
On the Job

SunTrust

When Trust Co. Bank of Georgia and Sun Bank of Florida merged a decade ago to create SunTrust Bank Corp., each organization had a chief information officer. So one CIO lost his job, right?

Wrong. Tom Ash, chief executive officer of SunTrust Service Corp., decided to keep both of them. While there are times when the two CIOs — John Hutto, in charge of systems and programming, research and development and planning, and Bob Horton, who heads data processing and telecommunications — disagree, Ash says he believes the organization has benefited from splitting the CIO's job. "We have two strong horses leading the charge, and we have made a lot of progress as a result," Ash says. While coordination is "a challenge," Ash insists that Hutto and Horton make it work.



Tom Ash

Interestingly, Forrester Research, Inc. suggests that having two CIOs, one to focus on technology and the other to concentrate on hiring, motivating and training IS employees, could improve the overall performance of the IS department.

Judging from tenure at SunTrust Service, the company's IS subsidiary, most employees like their work environment: Half of the developers have been with the corporation for about 10 years.

And to encourage employees to develop new ideas, Ash urges senior managers to cultivate openness. "Tom Ash is very people-oriented," Hutto says. "He is a participative manager who empowers people to do what they need to do."

"Normally, when we get into a problem," Ash says, "I find the best minds to think through the issues and make recommendations. I sure don't have all the answers."

— Candee Wilde

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The HP Magic

By all accounts, Hewlett-Packard Co. is a special place — regardless of whether that place is its Palo Alto, Calif., headquarters, its Boise, Idaho, facilities or anywhere else around the world that HP's 5,000 IS professionals call home. But what makes HP so special is a matter of debate. To some, not so long ago, it was the free doughnuts that, in a move to trim the fat, so to speak, HP stopped dispensing. To others, it's the feelings, reinforced constantly, that managers care deeply about balancing the demands of work and life. (Name another company that has a Work/Life Manager who, for example, is responsible for helping employees cope with dependent care, adoption and the everyday crises that pull us away from work from time to time.)

But perhaps more than any other factor, HP's magic is this: It has never, in its nearly 40-year history, had a major layoff.

"A lot of what makes a company great is the way it treats employees in bad times," says Quinn Spitzer, chairman and CEO of management consultant Kepner-Tregoe, Inc. And HP has had its share of bad times. Back in 1970, for instance, the company asked its employees to work only four days per week, rather than issuing walking papers. And in the late 1980s, HP devised innovative incentives for early retirement — again, avoiding Draconian cost-cutting measures. "People still talk about those days," says Heather Tripp, manager of HP's process engineering group. "For everyone, it was the best proof that when HP says it 'values you,' it means it."

Does it work? "We've had no econometric studies," says Bob Walker, HP's vice president and CIO. "But we consistently see a correlation between our employee satisfaction surveys [conducted yearly] and the success of our business units, sustained over time."

Nice measures, no matter how you look at it.

— Rochelle Garner

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Continued from page 60

are moving away from projects that are "cool" or "neat" to ones that strictly further their corporate goals. Often, those projects do not include particularly compelling technologies. The question facing IS organizations is this: How do you motivate your staff when you can't give them the technical challenges they crave?

This is a tough question with no easy answers — particulary for companies that issue conflicting messages every time they cycle through new management, new economic conditions or new organizational fads. "There are studies that show that companies with articulated visions of their goals, their values toward customers and their employees, and the way they manage their business dramatically outperform those that don't," says Kepner-Tregoe's Spitzer. "But the big thing is that those messages must remain constant."

A workplace that may seem glorious to one person could be hell to another.

That's been the case at Champion International Corp. For years buffeted by the decline in paper prices, the Hamilton, Ohio, manufacturer of paper and wood products has only recently seen an increase in revenue and earnings per share. Yet through bad times and good, Champion's IS department maintained its commitment to work teams, to individual responsibility and to improving the corporate coffers by way of solid technology.

"When you set a vision, you apply it day in and day out," says Dan Smith, vice president of management information systems at Champion. In other words, Smith says, Champion backs up its messages with its actions. And according to all of the people who've analyzed the potential connection between the workplace and the bottom line, that consistency — of both the message and the method — is key.

"It's not training for training's sake — you have to have a strategic goal and apply training to reach that level," Huselid says. "And if you implement work teams but don't select, train and reinforce people to work in that environment, the effort won't work as well as it might."

The moral of all this? The connection between being a great place to work and corporate success is, at best, tenuous. Some companies have managed to forge the two, but their success has come by creating a strong corporate community and by defining the values that motivate its citizens.

There is no magic bullet here, just years of hard work.

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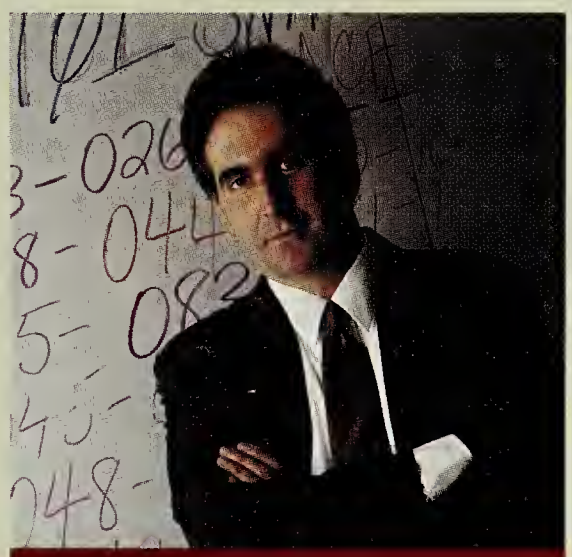
On the Job

Teachers Insurance Annuity Association

Joe Greco will be the first to tell you what's so special about working in IS for James Wolf, senior vice president of the Teachers Insurance Annuity Association-College Retirement Equities Fund. "He has an excellent sense of humor," says Greco, assistant systems officer.



Joe Greco

Wolf takes his humor seriously, Greco says. He has gone as far as dressing up like Scotty on "Star Trek" for an IS version of intergalactic capers to entertain at TIAA's annual achievement recognition program.

While Wolf may laugh with you, he won't laugh at you. "I've never seen him answer a question in a way that makes someone not want to ask another question," Greco says. Quarterly and weekly meetings, as well as an open-door management policy, help maintain a steady flow of communication. The wealth of information gathered from these sources does not lie dormant in Wolf's office, however. This information gets passed along to employees through conversations with Wolf.

"[Wolf] is good at giving you the big picture for decision making. And that is a tremendous help, because sometimes you only see something from your corner of the world," explains Alice Schulte, systems programming adviser.

Greco says there's a strong effort to keep employees upwardly mobile. To do so, Wolf has commissioned a professional development program for the corporate MIS group. The intent: to make sure employee skills are kept up to date. "I think [the professional development program] is something that will have a very positive impact in terms of the staff understanding job requirements," Greco says.

— Amy Malloy

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DON'T

Or, how do you keep them down on the farm once they've seen the big-city lights?

BORE ME!

BY ALICE LAPLANTE

Joseph Cuccia is quite happy with his programming job at Computer Associates International, Inc., thank you very much. But he still studies the "help wanted" ads every Sunday.

He scopes out who's hiring. Which technologies are hot. Which skills seem to be commanding the best salaries.

Call it a reality check. Or long-term career planning. Whatever. When pressed, Cuccia says he just likes keeping on top of what's happening.

And on top he certainly is. As one of the new generation of young technologists entering the ranks of corporate IS, 25-year-old Cuccia is in the fortunate position of possessing some of the hottest — and best-compensated — skills around. Among them: distributed database design. Object-oriented programming languages. GUI desktop interfaces.

Cuccia made a beeline for the CA employment office in 1993 immediately after graduating from the State University of New York in Islandia with a computer science degree. Now, after three hands-on years in the technology trenches, Cuccia is a prime candidate for being lured away by re-

PHOTOGRAPHY BY WILL VAN OVERBEEK

cruiters or competing IS shops. So what keeps him where he is?

"I'm always challenged here, always learning," he says. "All the technologies I see advertised in the newspaper — I'm on them. And I've even started on my master's degree, paid for courtesy of CA."

Indeed, Cuccia is only echoing what seems to be the universal mantra of these so-called Young Turks: Don't bore me.

Decent compensation helps keep this young talent loyal, of course. Likewise, regular promotion and personal recognition for significant technical achievements. But without the excitement of continuously progressing through the emerging technological maze, most of these young men and women would probably walk.

"You can't expect to keep your best people happy just by throwing money at them," says Rich Reinken, vice president and CIO of Tosco Corp., an oil and gas refining and retailing conglomerate in Stamford, Conn. Reinken believes in a project-oriented approach to IS management. That is, "you limit the traditional maintenance activities as much as possible. Focus on development, on giving people assignments with definite beginnings and definite ends," he says. Reinken prides himself on the high quality of his staff, freely admitting that "most of the people with these skills could easily find jobs that pay 10% or 20% more by going elsewhere. You have to make it challenging and fun if you want to keep them."

Priced to move

Indeed, many IS shops find that workers with the skills and experience they need are so expensive that they must, in effect, grow their own. Jim Stewart did this when building an IS organization from scratch 18 months ago. As the vice president of IS for Duff & Phelps Credit Rating Co., a Chicago-based firm that rates corporate debt and bonds, and which was spun off from its parent company in 1994, he desperately needed technologists with client/server and distributed database skills. But "we found we were basically priced out of the market for experienced people," he says. His solution: hire relatively inexperienced young workers with the right aptitude and attitude and train them.

Take the case of Tracie Lamb. Lamb had worked at Arthur Andersen, in Chicago, for two years after graduating from the University of Florida with a degree in information sciences. Tired of being relegated to preliminary design and analysis activities, she started looking around for a new job. She settled on Duff & Phelps primarily because of the hands-on training in emerging technologies — and the personal responsibility that Stewart promised to give her. "It's much more satisfying to have a project all to yourself and to be responsible for all aspects of it," Lamb says.

Stewart knows that some of the workers he's trained, like Lamb, could probably walk out the door and immediately find jobs paying $10,000 or even $20,000 more than he can af-

Continued on page 68

When Generations Collide

Back in 1993, John Emley had to navigate some tricky personnel waters.

As vice president of IS at Diamond Shamrock, Inc., a San Antonio-based oil refining firm, Emley knew it was time to migrate his aging mainframe legacy applications to a client/server architecture. Problem was, most of his IS workers didn't have the necessary skills.

He decided to do the following:

- Bring in a small number of temporary contractors with the latest in Unix, Novell, TCP/IP, Sybase and PowerBuilder knowledge and experience.
- Put his existing staff through rigorous retraining.
- Hire young recent college graduates familiar with emerging technologies (when a permanent opening occurred through attrition) to help move the department forward.

The Diamond Shamrock gang includes, left to right: Chuck Oakes, general manager, IS; Lowman Gober, programmer; and John Emley, VP of IS.

When Emley gathered his 60 or so technologists together to break the news of the upcoming transition, the room was understandably tense.

Although his first move was to reassure everyone that their jobs were secure — the CEO had promised no one would be laid off — there was still vocal opposition from a staff rich in Cobol and CICS experience. "I was prepared for, and encountered, quite a lot of fear," Emley recalls.

There were exceptions, of course. One was Joe Hassmann, then a 28-year-old affiliate systems analyst who had joined Diamond Shamrock in January 1991 as part of his college co-op program. Hassmann already had impressive desktop computing skills and was in charge of supporting the firm's growing WAN.

Although most of the IS old guard has now successfully made the transition, Hassmann admits that it was a stressful time for the older workers. "There were at least two top-notch mainframe programmers who decided they couldn't deal with it and went elsewhere," he recalls.

The remainder were organized into cross-functional teams so that employees with the soon-to-be-superfluous skills worked alongside the newcomers, many of them decades younger than the men and women they were helping to lead. Chuck Oakes, general manager at Diamond Shamrock, admits he saw discomfort "when older workers needed to call on the young kids for help."

Oakes says the early uneasy relations between the new and

Continued on page 68

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old guard soon passed. This was largely due to Diamond Shamrock's decision to place emphasis on hiring young technologists with an abundance of interpersonal skills.

Take 27-year-old Lowman Gober. He joined the firm part-time in September 1994 while working on his information systems degree at the University of Texas. Gober graduated in December 1995 and immediately was assigned to Diamond Shamrock's most strategic technology team: working on electronic commerce applications for the World Wide Web. However, because of Gober's relaxed way of rolling up his sleeves and enthusiastically helping out whenever asked, the older IS workers aren't put off by having to consult a relatively inexperienced newcomer, Oakes says.

Gober, for his part, was pleased to personally witness how Diamond Shamrock management made it a priority to aid existing employees with a difficult technological transition.

"I liked that evidence of commitment," he says. "It tells me I won't be cut loose the minute my skills get a little out of date."

— Alice LaPlante

Continued from page 67

ford. He has to hope that what he can offer IS employees — a hands-off management style and exciting projects — make up for that.

Keeping up the pay

But, of course, keeping salaries somewhat competitive is also an imperative. Every IS manager has a story of the talented young employee who stuck around long enough to be trained — and then cashed in by accepting a better job elsewhere.

At the moment, Joe Hassmann, a 31-year-old affiliate systems analyst at Diamond Shamrock, Inc., a San Antonio-based oil refining firm (see related story on page 67), knows he is working "below market rates."

He's been assured, however, by managers he has confidence in, that he'll be "taken care of in the future," he says. And he's received sufficient promotions, personal recognition and oppor-

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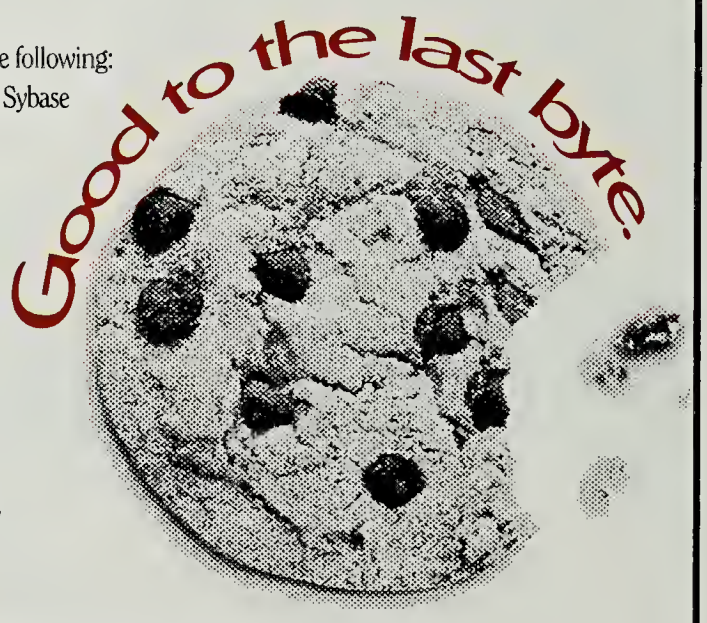

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tunity to work with the latest and greatest technologies to keep him a contented employee after more than five years.

It's difficult, admits Chuck Oakes, Hassmann's manager. "To be honest, we know we're getting many of these kids out of college at very reasonable rates," he says. "We try to build loyalty, but they're very marketable. We know that one day they may leave."

Many IS shops find that workers with the skills and experience they need are so expensive that they must, in effect, grow their own.

Generation gap

But it takes a skilled manager to keep these Young Turks happy, without also running the risk of alienating IS employees with more traditional skills. Greg Kirchdorfer has been on both sides of the fence. Hired by the data center at a large insurance conglomerate immediately after graduating from college in the late 1980s, Kirchdorfer found himself working alongside old-line IS types — many of them 20 years, 30 years, or even 40 years his senior. As one of the few employees with any desktop experience, Kirchdorfer was almost immediately assigned to the projects that eventually revolutionized the way the company thought about computing: Unix. RISC hardware. Sybase servers. Windows clients.

There was quite a bit of animosity toward him in the beginning, Kirchdorfer admits:

"There was one guy, 62 years old, a Cobol programmer who'd been working at the data center since before I was born," Kirchdorfer recalls. "Charlie didn't like me one bit at first. Thought I was a punk techie. But we eventually became pals."

So when Kirchdorfer, now 31, accepted his current position as technical integrations manager for Adware Systems, Inc., a wholly owned subsidiary of Interpublic Group of Cos. in Louisville, Ky., he understood the danger of a divided IS shop. Happily, he feels his current workplace has steered past the worst of it.

"It takes a lot of effort — mostly through personal relationships — to get the two camps to trust each other," he says.

"We're seeing more synergy than rivalry as everyone begins to realize we need the entire range of skills and knowledge if we want to make it all work," Kirchdorfer says.

LaPlante is a freelance writer based in Woodside, Calif.

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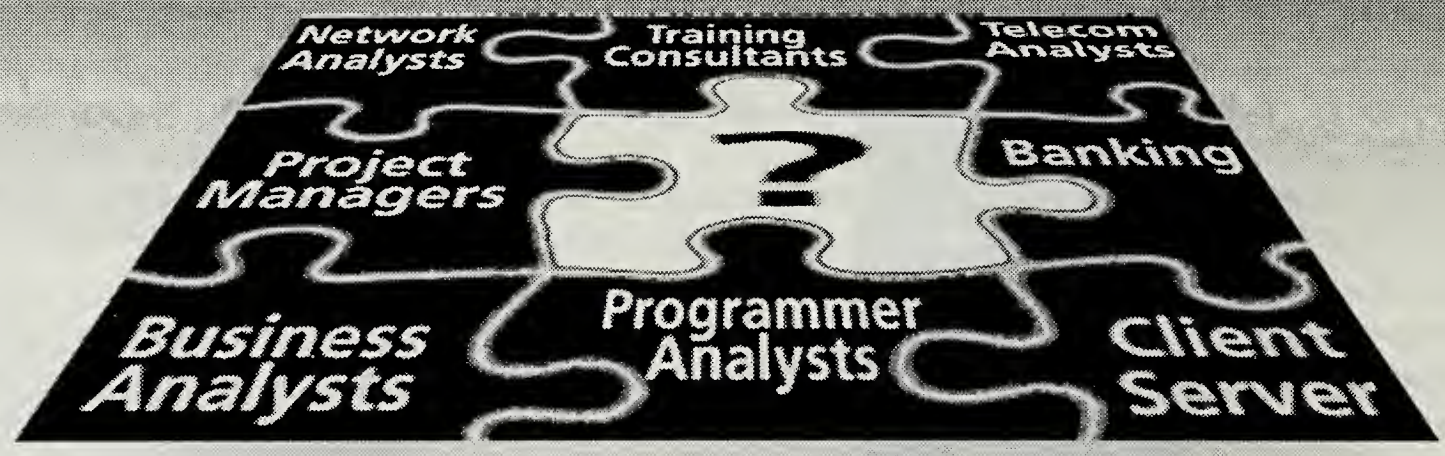
Where Do You Fit Into The Puzzle?



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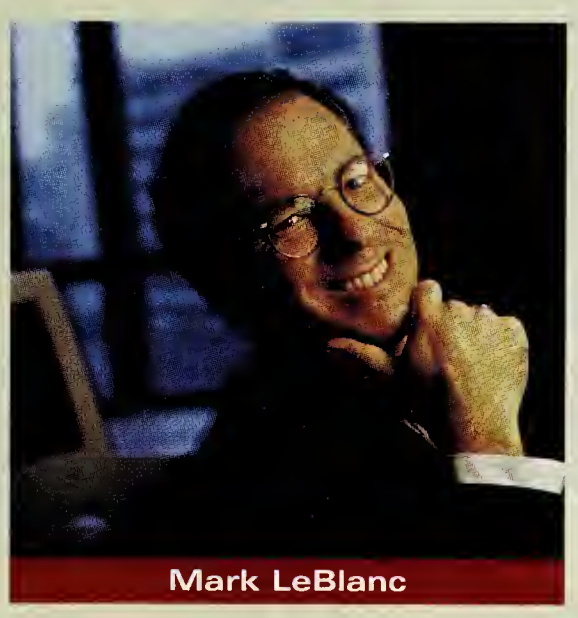
On the Job

U.S. Arms Control & Disarmament Agency

Does a nonbureaucratic government agency sound like an oxymoron? IS employees at the U. S. Arms Control & Disarmament Agency in Washington, D.C., don't think so.

"We can respond to changes in technology very quickly because [there are few] levels of management," says Jim Millard, senior systems analyst at the agency.

"We don't have any bureaucracy at all," echoes Mark LeBlanc, manager of computer operations.



Mark LeBlanc

The tight-knit group of 11 full-time IS staff members is able to move through changes adeptly because CIO Glen Johnson meets with his employees several times a week to get their input and review the status of projects. The department works with technologies such as Web pages, groupware and client/server databases. When necessary, Johnson reassigns resources immediately, LeBlanc explains.

Johnson's willingness to listen is highly regarded. "He is very team-oriented. He wants to hear everybody's opinion on different ways to proceed before a decision is made," Millard says.

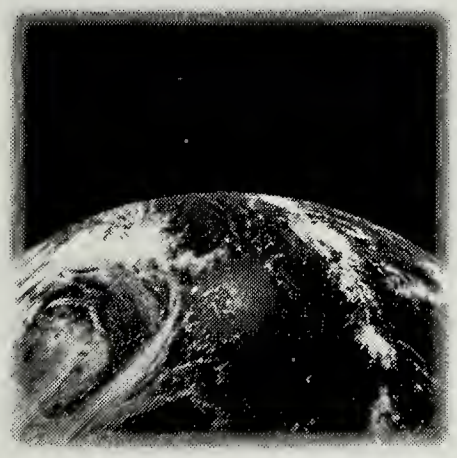
Changes occur quickly within the organization, so employee relations need to be good.

"We are able to make changes on a dime. It would take months to get an effort going someplace else. Here, we are able to procure, acquire, set up and install new systems very, very quickly," LeBlanc says.

Training is high on the priority list, too. To keep employees current, training time is factored into employees' schedules. The agency also offers a tuition reimbursement program.

— Amy Malloy

WE DON'T RUN BANKS.



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SOFTWARE ENGINEER to design and develop various applications in UNIX, C, Oracle and Visual Basic based environment.

DATABASE ADMINISTRATOR to provide logical and physical database support to development groups throughout MasterCard. Environment consists of UNIX and Oracle 7.0.

PROGRAMMER ANALYST to design and develop various applications in an OS/MVS, COBOL environment. Relational database experience and CICS would be a plus.

DATA COMMUNICATIONS ANALYST to troubleshoot outages in support of MasterCard's global network. Environment includes Windows NT, UNIX, RACAL, Frame Relay, TCP/IP and CISCO routers.

PROCESS IMPROVEMENT PROJECT LEADER for corporate wide ABT Project Workbench implementation and training.

SYSTEMS ADMINISTRATOR to install, configure and customize Expert Advisor Problem Management System in conjunction with corporate wide implementation.

INFORMATION SECURITY/CLIENT-SERVER ANALYST to define and implement security requirements on UNIX, TCP/IP and Oracle applications.

NETWORK SYSTEMS ADMINISTRATOR for UNIX and PC based systems. Environment includes TCP/IP, Windows NT, Sun O/S, HP Openview and Microsoft Access.

COMPUTER OPERATORS for multi-platforms environment including IBM, Stratus, Tandem, UNIX. Tools include MVS, JESII, VTAM and CICS. Automation platform experience preferred.

PRODUCTION PROCESSOR for multi-platform environment using CA7, UCCII and JCL. Strong PC skills.

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PHOTOGRAPHY BY KATHERINE LAMBERT

The One Hundred Best Places To Work

THE COMPUTERWORLD

Rank	Company	Industry	Location	New IS hires in 1995
1	Cisco Systems, Inc.	Computer Hardware, Software & Related Products	San Jose, Calif.	60
2	Informix Software, Inc.	Computer Hardware, Software & Related Products	Menlo Park, Calif.	NA
3	Computer Associates International, Inc.	Computer Hardware, Software & Related Products	Islandia, N.Y.	1,732
4	Sears, Roebuck and Co.	Wholesale, Retail & Distribution	Hoffman Estates, Ill.	130
5	Xerox Corp.	Computer Hardware, Software & Related Products	Stamford, Conn.	75
6	Massachusetts Mutual – The Blue Chip Co.	Insurance	Springfield, Mass.	100
7	Price Waterhouse LLP	Professional Services & Consulting	New York, N.Y.	1,169
8	Southwest Airlines Co.	Transportation Services	Dallas	60
9	American Management Systems, Inc.	Professional Services & Consulting	Fairfax, Va.	1,800
10	Enserch Corp.	Mining, Forest Products, Oil & Gas	Dallas	40
11	The Home Depot, Inc.	Wholesale, Retail & Distribution	Atlanta	47
12	University of Miami	Education	Miami	15
13	First NBD Chicago Corp.	Financial Services & Banking	Chicago	100
14	University of Wisconsin at Stevens Point	Education	Stevens Point, Wis.	4
15	Caterpillar, Inc.	Industrial Equipment	Peoria, Ill.	150
16	Key Services Corp.	Financial Services & Banking	Cleveland	187

How the Best became the Best

Computerworld's third annual Best Places to Work ranking captures the essence of what it takes to be an outstanding IS organization. Various criteria were used in our weighted-average formula; all of them play an important role in creating an environment where IS professionals can thrive.

Who: *Computerworld* considered a diversity of organizations for inclusion on the Best Places list. We started with last year's 100 ranking and added the 1995 Fortune 500 list, which includes both manufacturing and service companies. In addition, we included large government agencies, both state and federal, colleges and universities and about 40 of the largest management consulting and systems integration firms. In all, *Computerworld* surveyed more than 1,100 organizations. The primary contact within these organizations was the most senior information systems manager.

What: We asked these IS managers 31 questions covering a wide range of employee-related topics: benefits, salary levels, salary increases, staff growth, staff promotions, employee turnover rates, training budgets and number of training days, use of technology and diversity in the workplace. In most questions, we asked respondents to identify a range, rather than a specific number.

These nine topics were each given a numerical value, which were then summed, using a weighted-average formula, to determine the total score for the organization. These scores then became the basis for ranking the organizations and selecting the final 100 Best Places to Work.

How: *Computerworld*'s Special Projects editor, Bruce Rayner, and research manager, Bob Fink, developed the Best Places to Work survey. Pro Temp Partners, a market research firm in Weston, Mass., conducted the survey in January and February 1996, by telephoning and faxing the 1,100 senior IS managers. While Pro Temp followed up with IS managers to encourage them to respond, it was up to the managers to supply the data.

For more information, contact Bruce Rayner at (508) 820-8195, or on the Internet at bruce_rayner@cw.com.

100 BEST PLACES TO WORK

IS Staff Changes		Average Salary Increase		IS Staff Promoted in 1995	Days of Training in 1995	IS Staff Diversity	
Actual 1995	Projected 1996	Actual 1995	Projected 1996			Women	Minorities
20%+	20%+	7% to 9%	10%+	40%	11 to 15	20% to 39%	20% to 39%
10% to 20%	20%+	7% to 9%	10%+	26%	11 to 15	40% to 49%	1% to 19%
10% to 20%	20%+	10%+	10%+	12%	11 to 15	40% to 49%	20% to 39%
10% to 20%	1% to 4%	10%+	7% to 9%	30%	11 to 15	40% to 49%	20% to 39%
10% to 20%	10% to 20%	10%+	10%+	10% to 15%	6 to 10	40% to 49%	20% to 39%
1% to 4%	10% to 20%	7% to 9%	10%+	25%	6 to 10	50% to 74%	1% to 19%
20%+	20%+	10%+	10%+	25%	20+	20% to 39%	1% to 19%
20%+	20%+	7% to 9%	7% to 9%	15%	6 to 10	40% to 49%	1% to 19%
20%+	10% to 20%	10%+	10%+	10% to 20%	6 to 10	20% to 39%	1% to 19%
10% to 20%	5% to 9%	7% to 9%	7% to 9%	12%	6 to 10	40% to 49%	20% to 39%
10% to 20%	5% to 9%	7% to 9%	7% to 9%	18%	11 to 15	40% to 49%	1% to 19%
1% to 4%	1% to 4%	4% to 6%	4% to 6%	15%	20+	40% to 49%	50% to 74%
10% to 20%	10% to 20%	10%+	7% to 9%	21%	1 to 5	20% to 39%	20% to 39%
10% to 20%	20%+	4% to 6%	4% to 6%	20%	20+	20% to 39%	0%
1% to 4%	5% to 9%	7% to 9%	7% to 9%	25%	16 to 20	40% to 49%	20% to 39%
10% to 20%	10% to 20%	7% to 9%	7% to 9%	40%	6 to 10	20% to 39%	1% to 19%

NA = Not available

Rank	Company	Industry	Location	New IS hires in 1995
17	U.S. Arms Control & Disarmament Agency	Government	Washington, D.C.	2
18	Crown Central Petroleum Corp.	Mining, Forest Products, Oil & Gas	Baltimore	5
19	Fifth Third Bancorp.	Financial Services & Banking	Cincinnati	80
20	E-Systems, Inc.	Appliances, Electronics & Electrical Equipment	Dallas	15
21	Entergy Corp.	Telecommunications & Utilities	New Orleans	35
22	Tech Data Corp.	Wholesale, Retail & Distribution	Clearwater, Fla.	100
23	Sherwin-Williams Co.	Chemicals, Pharmaceuticals & Cosmetics	Cleveland	35
24	Campbell Soup Co.	Food & Beverage	Camden, N.J.	20
25	PacifiCare Health Systems	Health Care	Cypress, Calif.	90
26	Amgen, Inc.	Chemicals, Pharmaceuticals & Cosmetics	Thousand Oaks, Calif.	40
27	AT&T Corp.	Telecommunications & Utilities	Basking Ridge, N.J.	113
28	Maytag Corp.	Appliances, Electronics & Electrical Equipment	Newton, Iowa	32
29	Duff & Phelps Credit Rating Co.	Financial Services & Banking	Chicago	4
30	AMOCO Corp.	Mining, Forest Products, Oil & Gas	Chicago	204
31	Mellon Bank Corp.	Financial Services & Banking	Pittsburgh	198
32	State Street Bank & Trust Co.	Financial Services & Banking	Boston	120
33	U.S. Dept. Housing & Urban Development	Government	Washington, D.C.	103
34	Owens Corning	Metals, Building Materials & Glass	Toledo, Ohio	18
35	Outboard Marine Corp.	Industrial Equipment	Waukegan, Ill.	6
36	First Bank System, Inc.	Financial Services & Banking	St. Paul, Minn.	155
37	Anheuser-Busch Cos.	Food & Beverage	St. Louis	NA
38	Avon Products, Inc.	Chemicals, Pharmaceuticals & Cosmetics	New York, N.Y.	54
39	Pepsico, Inc.	Food & Beverage	Purchase, N.Y.	7
40	University of California at Davis	Education	Davis, Calif.	19
41	Tyco International Ltd.	Appliances, Electronics & Electrical Equipment	Exeter, N.H.	1
42	Caliber Technology, Inc.	Transportation Services	Akron, Ohio	120
43	UNUM Corp.	Financial Services & Banking	Portland, Maine	200
44	Fleet Services Corp.	Financial Services & Banking	Providence, R.I.	246
45	SunTrust Service Corp.	Financial Services & Banking	Atlanta	114
46	Wal-Mart Stores, Inc.	Wholesale, Retail & Distribution	Bentonville, Ark.	251
47	U.S. Healthcare, Inc.	Insurance	Blue Bell, Pa.	105
48	Farmland Industries, Inc.	Wholesale, Retail & Distribution	Kansas City, Mo.	6
49	Minnesota Mutual Life Insurance Co.	Insurance	St. Paul, Minn.	35
50	United HealthCare Corp.	Health Care	Minneapolis	450
51	The Equitable Cos.	Financial Services & Banking	New York, N.Y.	200

100 BEST PLACES TO WORK

IS Staff Changes		Average Salary Increase		IS Staff Promoted in 1995	Days of Training in 1995	IS Staff Diversity	
Actual 1995	Projected 1996	Actual 1995	Projected 1996			Women	Minorities
10% to 20%	0%	1% to 3%	1% to 3%	25%	11 to 15	50% to 74%	50% to 74%
10% to 20%	10% to 20%	4% to 6%	4% to 6%	30%	6 to 10	40% to 49%	1% to 19%
20%+	10% to 20%	7% to 9%	7% to 9%	30%	6 to 10	20% to 39%	1% to 19%
5% to 9%	5% to 9%	7% to 9%	7% to 9%	22%	6 to 10	20% to 39%	1% to 19%
0%	10% to 20%	10%+	10%+	13%	6 to 10	20% to 39%	1% to 19%
20%+	10% to 20%	4% to 6%	4% to 6%	20%	1 to 5	20% to 39%	20% to 39%
5% to 9%	1% to 4%	4% to 6%	4% to 6%	15%	11 to 15	20% to 39%	1% to 19%
-20%+	1% to 4%	7% to 9%	4% to 6%	21%	11 to 15	40% to 49%	1% to 19%
20%+	10% to 20%	4% to 6%	4% to 6%	16%	1 to 5	40% to 49%	40% to 49%
10% to 20%	5% to 9%	4% to 6%	4% to 6%	19%	11 to 15	NA	NA
1% to 4%	1% to 4%	10%+	10%+	9%	6 to 10	50% to 74%	1% to 19%
20%+	10% to 20%	4% to 6%	4% to 6%	33%	11 to 15	20% to 39%	1% to 19%
20%+	20%+	7% to 9%	7% to 9%	10%	1 to 5	1% to 19%	20% to 39%
1% to 4%	1% to 4%	7% to 9%	4% to 6%	14%	6 to 10	20% to 39%	20% to 39%
5% to 9%	0%	4% to 6%	4% to 6%	15%	11 to 15	20% to 39%	1% to 19%
-1% to -4%	10% to 20%	10%+	10%+	15%	6 to 10	40% to 49%	1% to 19%
5% to 9%	1% to 4%	4% to 6%	4% to 6%	15%	6 to 10	50% to 74%	50% to 74%
5% to 9%	1% to 4%	4% to 6%	4% to 6%	15%	6 to 10	50% to 74%	50% to 74%
-1% to -4%	-5% to -9%	10%+	10%+	15%	20+	20% to 39%	1% to 19%
10% to 20%	20%+	4% to 6%	4% to 6%	14%	1 to 5	20% to 39%	1% to 19%
20%+	5% to 9%	4% to 6%	4% to 6%	21%	6 to 10	20% to 39%	1% to 19%
5% to 9%	20%+	4% to 6%	4% to 6%	37%	6 to 10	20% to 39%	20% to 39%
5% to 9%	5% to 9%	10%+	7% to 9%	24%	11 to 15	20% to 39%	20% to 39%
0%	1% to 4%	4% to 6%	4% to 6%	20%	6 to 10	40% to 49%	1% to 19%
20%+	20%+	4% to 6%	4% to 6%	10%	6 to 10	40% to 49%	50% to 74%*
0%	1% to 4%	7% to 9%	7% to 9%	2%	6 to 10	50% to 74%	1% to 19%
10% to 20%	5% to 9%	4% to 6%	4% to 6%	10%	1 to 5	20% to 39%	1% to 19%
0%	0%	10%+	10%+	10%	6 to 10	NA	1% to 19%
20%+	10% to 20%	4% to 6%	4% to 6%	12%	6 to 10	40% to 49%	1% to 19%
20%+	5% to 9%	10%+	10%+	9%	6 to 10	20% to 39%	1% to 19%
5% to 9%	1% to 4%	7% to 9%	10%+	11%	20+	NA	NA
20%+	20%+	4% to 6%	4% to 6%	9%	1 to 5	20% to 39%	1% to 19%
1% to 4%	0%	4% to 6%	4% to 6%	4%	11 to 15	40% to 49%	1% to 19%
1% to 4%	5% to 9%	4% to 6%	4% to 6%	23%	11 to 15	40% to 49%	1% to 19%
10% to 20%	20%+	4% to 6%	4% to 6%	14%	6 to 10	20% to 39%	20% to 39%
0%	5% to 9%	7% to 9%	7% to 9%	20%	6 to 10	40% to 49%	20% to 39%

*Includes women NA = Not available

Rank	Company	Industry	Location	New IS hires in 1995
52	Barnett Technologies, Inc.	Financial Services & Banking	Jacksonville, Fla.	130
53	Deloitte & Touche	Professional Services & Consulting	Wilton, Conn.	40
54	Microsoft Corp.	Computer Hardware, Software & Related Products	Redmond, Wash.	293
55	Interpublic Group of Cos.	Professional Services & Consulting	New York, N.Y.	15
56	Willamette Industries, Inc.	Wholesale, Retail & Distribution	Portland, Ore.	33
57	North Dakota State University at Fargo	Education	Fargo, N.D.	3
58	Consolidated Freightways, Inc.	Transportation Services	Palo Alto, Calif.	70
59	Parker Hannifin Corp.	Metals, Building Materials & Glass	Cleveland	10
60	Tosco Corp.	Mining, Forest Products, Dil & Gas	Stamford, Conn.	20
61	Kansas State University at Manhattan	Education	Manhattan, Kan.	NA
62	University of Notre Dame	Education	Notre Dame, Ind.	10
63	Cone Mills Corp.	Apparel & Textile	Greensboro, N.C.	6
64	Bowling Green State University	Education	Bowling Green, Ohio	NA
65	Diamond Shamrock, Inc.	Mining, Forest Products, Oil & Gas	San Antonio	3
66	Chrysler Corp.	Automotive	Auburn Hills, Mich.	NA
67	Honeywell, Inc.	Appliances, Electronics & Electrical Equipment	Minneapolis	40
68	AMP, Inc.	Appliances, Electronics & Electrical Equipment	Harrisburg, Pa.	48
69	Board of Governors, Federal Reserve System	Government	Washington, D.C.	60
70	Booz Allen & Hamilton, Inc.	Professional Services & Consulting	McLean, Va.	30
71	Phelps Dodge Corp.	Mining, Forest Products, Dil & Gas	Phoenix	7
72	Bear Stearns & Co.	Financial Services & Banking	New York., N.Y.	83
73	Teachers Insurance Annuity Association*	Insurance	New York, N.Y.	79
74	Northwestern Mutual Life Insurance Co.	Insurance	Milwaukee	41
75	Comerica, Inc.	Financial Services & Banking	Auburn Hills, Mich.	62
76	Bausch & Lomb, Inc.	Health Care	Rochester, N.Y.	25+
77	Champion International Corp.	Mining, Forest Products, Dil & Gas	Stamford, Conn.	27
78	Rohm & Haas Co.	Chemicals, Pharmaceuticals & Cosmetics	Philadelphia	6
79	First Commerce Corp.	Financial Services & Banking	New Drleans	26
80	Florida Atlantic University	Education	Boca Raton, Fla.	7
81	Detroit Edison Co.	Telecommunications & Utilities	Detroit	20
82	Reynolds Metals Co.	Metals, Building Materials & Glass	Richmond, Va.	30
83	State of West Virginia, Dept. of Admin.	Government	Charleston, W.Va.	2
84	U.S. Department of Justice	Government	Washington, D.C.	5
85	Standard Commercial Corp.	Tobacco	Wilson, N.C.	4
86	Lithonia Lighting, Inc.	Appliances, Electronics & Electrical Equipment	Conyers, Ga.	2

*Teachers Insurance Annuity Association – College Retirement Equities Fund

100 BEST PLACES TO WORK

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20%+	20%+	7% to 9%	7% to 9%	9%	6 to 10	20% to 39%	1% to 19%
5% to 9%	1% to 4%	4% to 6%	4% to 6%	5%	1 to 5	40% to 49%	1% to 19%
20%+	5% to 9%	10%+	7% to 9%	10%	6 to 10	40% to 49%	1% to 19%
10% to 20%	10% to 20%	1% to 3%	1% to 3%	10%	1 to 5	50% to 74%	0%
5% to 9%	5% to 9%	4% to 6%	1% to 3%	8%	6 to 10	20% to 39%	1% to 19%
10% to 20%	5% to 9%	NA	NA	20%	6 to 10	20% to 39%	1% to 19%
20%+	10% to 20%	4% to 6%	4% to 6%	10%	6 to 10	20% to 39%	1% to 19%
5% to 9%	1% to 4%	4% to 6%	4% to 6%	NA	16 to 20	50% to 74%	20% to 39%
5% to 9%	5% to 9%	1% to 3%	1% to 3%	2%	1 to 5	20% to 39%	20% to 39%
5% to 9%	1% to 4%	4% to 6%	4% to 6%	5%	6 to 10	20% to 39%	1% to 19%
0%	1% to 4%	4% to 6%	4% to 6%	7%	6 to 10	50% to 74%	0%
-1% to -4%	0%	4% to 6%	4% to 6%	10%	11 to 15	20% to 39%	20% to 39%
1% to 4%	1% to 4%	10%+	10%+	6%	11 to 15	1% to 19%	1% to 19%
0%	0%	4% to 6%	4% to 6%	10%	6 to 10	40% to 49%	1% to 19%
5% to 9%	5% to 9%	4% to 6%	4% to 6%	5%	6 to 10	20% to 39%	1% to 19%
1% to 4%	1% to 4%	4% to 6%	1% to 3%	10%	11 to 15	40% to 49%	20% to 39%
10% to 20%	5% to 9%	7% to 9%	7% to 9%	NA	1 to 5	20% to 39%	50% to 74%
10% to 20%	20%+	4% to 6%	4% to 6%	10%	6 to 10	20% to 39%	1% to 19%
10% to 20%	10% to 20%	4% to 6%	10%+	9%	1 to 5	20% to 39%	20% to 39%
5% to 9%	1% to 4%	4% to 6%	4% to 6%	13%	6 to 10	20% to 39%	40% to 49%
0%	1% to 4%	4% to 6%	4% to 6%	19%	6 to 10	40% to 49%	1% to 19%
0%	5% to 9%	4% to 6%	4% to 6%	16%	6 to 10	40% to 49%	1% to 19%
5% to 9%	-1% to -4%	4% to 6%	4% to 6%	10%	20+	40% to 49%	1% to 19%
5% to 9%	1% to 4%	4% to 6%	4% to 6%	19%	6 to 10	20% to 39%	1% to 19%
0%	1% to 4%	1% to 3%	1% to 3%	15%	1 to 5	20% to 39%	1% to 19%
5% to 9%	5% to 9%	7% to 9%	7% to 9%	9%	NA	50% to 74%	NA
1% to 4%	1% to 4%	4% to 6%	1% to 3%	8%	11 to 15	20% to 39%	20% to 39%
1% to 4%	1% to 4%	4% to 6%	4% to 6%	3%	1 to 5	20% to 39%	20% to 39%
1% to 4%	5% to 9%	4% to 6%	4% to 6%	25%	NA	20% to 39%	1% to 19%
-1% to -4%	1% to 4%	4% to 6%	4% to 6%	14%	11 to 15	20% to 39%	1% to 19%
0%	0%	4% to 6%	4% to 6%	12%	6 to 10	40% to 49%	50% to 74%
10% to 20%	0%	10%+	NA	0%	11 to 15	20% to 39%	1% to 19%
5% to 9%	5% to 9%	4% to 6%	4% to 6%	15%	6 to 10	50% to 74%	1% to 19%

NA = Not available

Rank	Company	Industry	Location	New IS hires in 1995
87	Pacific Telesis Group	Telecommunications & Utilities	San Ramon, Calif.	100
88	EMC Corp.	Computer Hardware, Software & Related Products	Hopkinton, Mass.	37
89	The Turner Corp.	Construction	New York, N.Y.	2
90	University of Delaware at Newark	Education	Newark, Del.	3
91	Fluor Corp.	Construction	Irvine, Calif.	NA
92	State of Alabama	Government	Montgomery, Ala.	10
93	Phillips-Van Heusen Corp.	Apparel & Textile	Bridgewater, N.J.	22
94	General Mills, Inc.	Food & Beverage	Minneapolis	25
95	Computer Task Group	Professional Services & Consulting	Buffalo, N.Y.	3,447
96	Hewlett-Packard Co.	Computer Hardware, Software & Related Products	Palo Alto, Calif.	745
97	Sallie Mae Servicing Corp.	Financial Services & Banking	Washington, D.C.	75
98	People's Bank	Financial Services & Banking	Bridgeport, Conn.	15
99	AMR Corp., The Sabre Group	Transportation Services	Fort Worth, Texas	778
100	National Semiconductor Corp.	Appliances, Electronics & Electrical Equipment	Sunnyvale, Calif.	15

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IS Staff Changes		Average Salary Increase		IS Staff Promoted in 1995	Days of Training in 1995	IS Staff Diversity	
Actual 1995	Projected 1996	Actual 1995	Projected 1996			Women	Minorities
5% to 9%	5% to 9%	4% to 6%	4% to 6%	8%	6 to 10	50% to 74%	20% to 39%
20%+	5% to 9%	4% to 6%	4% to 6%	5%	1 to 5	20% to 39%	20% to 39%
20%+	5% to 9%	7% to 9%	4% to 6%	10%	6 to 10	20% to 39%	1% to 19%
0%	0%	4% to 6%	4% to 6%	5%	6 to 10	50% to 70%	1% to 19%
0%	NA	4% to 6%	4% to 6%	16%	1 to 5	20% to 39%	1% to 19%
5% to 9%	1% to 4%	7% to 9%	7% to 9%	10%	1 to 5	20% to 39%	1% to 19%
1% to 4%	1% to 4%	4% to 6%	4% to 6%	12%	1 to 5	40% to 49%	1% to 19%
0%	0%	4% to 6%	4% to 6%	15%	6 to 10	40% to 49%	1% to 19%
10% to 20%	10% to 20%	4% to 6%	4% to 6%	15% to 20%	6 to 10	20% to 39%	1% to 19%
10% to 20%	5% to 9%	7% to 9%	7% to 9%	NA	11 to 15	20% to 39%	20% to 39%
0%	0%	4% to 6%	4% to 6%	27%	1 to 5	40% to 49%	20% to 39%
10% to 20%	5% to 9%	4% to 6%	4% to 6%	15%	NA	20% to 39%	20% to 39%
10% to 20%	5% to 9%	10%+	7% to 9%	12%	1 to 5	20% to 39%	20% to 39%
-10% to -20%	-10% to -20%	7% to 9%	7% to 9%	10%	11 to 15	40% to 49%	20% to 39%

NA = Not available

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Job Code BOH

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Job Code LAN

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